
MR. LORRA.

SECRET

ΦΑΡΜΑΚΟΛΟΓΙΑ:

Touch-stone of Medicines.

Discovering

VERTUES

Of { VEGETABLES,
MINERALS, &
ANIMALS,

BY THEIR
TASTES & SMELLS.

In Two Volumes.

By Sir JOHN FLOTTER, of the City
of Litchfield, K^t. M. D. of Queens-Col-
lege, Oxford.

*Saporum Speculatio plurima jucunda, & non
minus utilia in se continet. Willis de A-
nima Brutorum.*

LONDON,

Printed for Michael Johnson, Bookseller: And
are to be Sold at his Shops at Litchfield and
Uttoxeter, in Stafford-shire; and Ashby-de-la-
Zouch, in Leicester-shire. 1687.

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:

OR, THE
Touch-stone of Medicines.

VOL. I.

Containing Three PARTS.

J Part the First. *H.*
OF
TASTES & ODORS
In general.

Part the Second.
A Phytological Essay,
How to Discover the Vertues of
PLANTS, whether Spontaneous in
England, or found in Gardens and Shops,
by their TASTES and SMELLS.

Part the Third.
OF THE
Tastes and Smells of the Products
of VEGETABLES; viz. Gums, Re-
sins, Turpentine, &c.

The Second Volume will be Publisht next
Michaelmas-Term.

65830

Medical Botany

To the Right Honorable,
George Lord Dartmouth,

*Master of the Horse to His
Majesty, General of all His
Majesty's Ordnance and
Armories, Chief Governour
of His Majesty's Tower
of London, Lord Lieu-
tenant of the Tower-Ham-
lets, and One of His Maje-
sty's most Honourable Privy-
Council.*

MY LORD,



Question not,
but This Essay
will be more
kindly Recei-
ved, for having Your Name

The Epistle Dedicatory.

prefixt to It; since That is so much honour'd for *Your* great Services to the Publick, and signal Loyalty to His present Majesty: And all Persons must needs therefore greatly esteem *Your* Merit, Courage, and Experience in Military Affairs; since the KING hath manifested His Approbation of Them, by the Great and Honourable Trusts conferr'd upon *You*.

My Lord, I will give *You* a few Instances of the Design and Usefulness of these Papers; that I may obtain

The Epistle Dedicatory.

obtain *Your* Protection against those morose Men, who endeavour to oppose this New *Undertaking*, tho' they cannot but acknowledge, that they approve of It.

The Design of This *Essay*, is, To vindicate the Art of Curing *Diseases*, from the common Scandal of being Conjectural, by Describing the *Tastes* and *Odors* of *Medicines*, and also of *Animal Humours*: For by These, *Medicines* were first discover'd, and the Humors of the *Body* examin'd; and from the
Obser-

The Epistle Dedicatory.

Observation of the Agreement and Contraries betwixt the *Taste* of *Humours* in the *Body*, and the *Medicine*, it was easie for *Physicians* to infer, That by a *Medicine* of the same *Taste*, the *Humours* of the *Body* are Preserv'd; and by the contrary *Taste* in the *Medicine*, they are Alter'd and Corrected.

These are the true Fundamental Rules of *Physick*, built on the Testimony of our Senses, and not on the Whims of *Chymists*, or the Fanaticisms of *Occult Qualities*; by which

The Epistle Dedicatory.

which *Medicines* work, like Charms, insensibly.

Hence *Quacks* give to their *Medicines* very many, and too unreasonable Commendations: They also pretend to an Experience of a particular *Medicine*, as well as the best *Physician*. But 'tis only the Taste and Smell of the *Medicine*, by which its Virtue must be try'd betwixt the *Physician*, & the *Quack*: By these the true *Physician* knoweth its *Virtue*, the Manner of its *Preparation*, the Suitableness of it to the *Humour* to be Corrected,

The Epistle Dedicatory.

cted, and to the Constitution of the *Patient* : Of all which the *Quack* is ignorant.

When the several *Compositions* of *Tastes*, and sometimes *Odors*, in the same *Plant*, are well consider'd by those who shall read the *Descriptions* I have given of them, I question not, but that the *Artificial Jumbles* of many *Medicines* together, will be Rejected ; and every *Ingenuous Practicer* will chiefly make use of *Simple Medicines* ; by which his *Patient* will be more
sud-

The Epistle Dedicatory.

suddenly, safely, and pleasantly Cured.

I have further propos'd some Notions about *Tastes in general*; for the easier discovering of the *Nature* of such *Plants*, as grow common in *England*. I have mention'd Those I have met with near *Litchfield*: And I have added *Exotics*; that by comparing the *Tastes* and *Vertues* of both, we might the better understand Those of Our own. It is a great Shame to our Profession, that the Ignorant *Indians* should know more of
Plants

The Epistle Dedicatory.

Plants in their *Native Country*, and do greater *Cures* by *Them*, than our *Artists* can by *Ours*.

I thought it absurd to write a *Latin Discourse* about *Englisb Plants*; which is design'd for the *Use* of *Englisb Men*, who are further to try and examine the *Tastes* and *Vertues* that I have mention'd. *Hippocrates* & *Galen* wrote their *Phyiscal Books* in the *Language* of the *Country* where they *Practiced*: And the Learn'd *Mr. Boyl* hath both *Honour'd* and *Improv'd* our *Language*,
by

The Epistle Dedicatory.

by his *Physical Discourses* in *English*. I have therefore wrote in *English*, that I might the more encourage our Country-Men to enquire into the *Vertue* of our *Native Plants*; we being hitherto oblig'd to our *Old English Herbals*, for a *Collection* of the *Vertues* of many *Plants* from the Country-Men; to whose Sagacity & Experiments the greatest *Physicians* are hitherto obliged. And since there have been so many false *Commedations* given of *Medicines*, and mistaken *Notions* of

Phy-

The Epistle Dedicatory.

Phyſick, I thought it reaſonable to *give* my Country-Men ſome *Advertiſements* of theſe Abuſes, and to enable them to a better Judgment of the right Nature of *Phyſick*.

By the Inſtances I have given, I hope I have convinc'd *Your Lordſhip* of the great Uſefulneſs of this *Eſſay*; and preſume, All who have a generous *Love* for their Country, will pardon the Fault (if it be One) of Writing in *Engliſh*.

I here Preſent *Your Lordſhip* with the firſt Fruits
of

The Epistle Dedicatory.

of my Studies, as an humble Acknowledgment of *Your* great Favors to Me ; and that I might make this Publick Declaration of My being,

· *My* LORD,

Your Lordship's most Faithful Humble Servant,

JOHN FLOYER.

(2)

TO

[illegible]

I had then no other Herbal by Me, but Mr. Ray's Catalogue of English Plants: From whence I took the Names of Plants, and the Method of placing Them in an Alphabetical Order by Themselves: But because I could not meet with all He mentions, I resolv'd to supply that Defect from our Country-Gardens, and Apothecaries Shops, where I tasted some Plants that were Dry and Old.

The Vertues of Those in the Shops being more experimented and known, I thought by

To the Reader.

Them the better to understand our Country-Herbs: And when I had tasted, and set down the Tastes and Odors of those Plants, I perceiv'd it was easie for Me to give an Account of their Vertues Collected by Dioscorides, Scroder, Etmuller, Mr. Ray, and Others. By the Reading of Hippocrates, Dioscorides, and Galen, I found that the Antients had the same Way of finding out the Vertues of Plants by their Taste and Smell: Which is most evident in Galen's Books of the Nature of Simple Medicines; where I found the Tastes and Odors of many Plants Described, as I have done; which gave Me a great Satisfaction, when I found my Taste to agree with Theirs of former Ages; which I had not read till I had finish'd my Descriptions of Tastes and Odors.

This Summer I visited the Famous Physick-Garden at Chelsey, in which I found a great Number of curious Plants; but have not given the Tastes of above Forty or Fifty, my Affairs not permitting Me to go above twice. I was pleas'd with many Curiosities There, which the Ingenuous and obliging Mr. Watts shew'd Me; especially the Tree which bears the Jesuits Bark. We observ'd a Turpentine in it; and not the Laurel-Bitter Taste, evident in ordinary Bark. I have since observ'd a Turpentine-Smell in the
fr:

To the Reader.

fresh Young Leaves of Laurel and Walnut ; and also of Black Currains, and some Others. The Leaves of the Tree mention'd, were then very Young ; and the Taste could not then be so certainly describ'd, as it may be in the midst of Summer : But the Taste of the Bark would best discover the Specifick Taste and Juyce of that Tree. I very much admire Mr. Watts's Ingenuity, in ordering his Plants into a Method for Learners ; and in his Artificial Heats for the more early Ripening of Fruit. His Taste and Smell did very much agree with Mine ; and did readily acknowledge my right Classing of many Plants. I was also obliged to the Company of Dr. Baynard, and Dr. Betts, Junior ; who tasted some Plants at Chelsey with Me, and concurr'd also in the Description of their Tastes and Smells.

I have not wholly trusted to my own Taste, in the Description of our Country Herbs, but have consulted the Tastes of all sorts of Persons ; and for that am oblig'd to divers Divines, Apothecaries, Chyrurgeons, Gentlewomen, and Young Persons, who have been my Patients ; whose Judgments, as Galen says, is Uncorrupt and Unprejudic'd. I must needs acknowledge, that the Palats of Women are more Critical than Men's, who generally dull it by Intemperance and Tobacco. .

To the Reader.

I shall readily Retract any Error I have committed; but advise the Reader, not too confidently to conclude my Mistake on the sudden: For it did require a long Experience in Tastes, before I could distinguish many Compositions, and how to express Them; and I took notice, that by tasting many Things together, I could distinguish nothing.

When I had Collected my Tastes and Smells, I found it necessary to Collect the known Vertues out of Dioscorides, Mr. Ray, and other Authors; that I might give an Account of those Vertues by their Taste and Smell: All which are mention'd in the Second Part of this Essay, which was first wrote; and out of which I made the Notions about Tastes and Smells in general. So that if any Assertion be obscure, for want of Instances, in the First Part, you may find Them in the Second; and if the Reason of the Vertue doth not appear clearly in the Taste given in the Second Part, consult the Taste in general in the First.

I added the Tastes of Resins, Gums, and Turpentine in the Third Part; because they are the Oily Specifick Juices of Plants.

Because Plants grow amongst Minerals, and are at last turn'd into an Animal Substance, I thought fit to add what I knew of their Tastes; that thence the Tastes, Nature,

To the Reader.

ture, and Vertues of Vegetables might be better explain'd. The Tastes of Animal Humours were long since observ'd by Hippocrates :

ἐν γὰρ ἀνθρώπῳ καὶ πικρὸν, καὶ αἰμυρὸν, καὶ γλυκὺ, καὶ ὀξύ, καὶ τρυφνόν, καὶ πλαδαρὸν, καὶ ἄλλα μυρία παντοίας δυνάμεις ἔχοντα. *Hip. de Prisca Medicina.*

For there is in Man, a Bitter, a Salt, a Sweet, a Tart, an Acerb, an Insipid, and a Thousand more; which have all manner of Faculties.

I have reduc'd, in the Fourth Part, Medicines into Specifick Classes; and distinguish the several Specificks by their Tastes, that Physicians might more readily find what Taste is necessary for the Correcting of particular Humours.

In the Fifth Part I have reduc'd Plants into the Summa Genera, by these Eight Tastes, being All, but the First, the Tastes of the Specifick Juices of Plants; (viz.) Earthy, Mucilaginous, Sweet, Bitter, Aromatick, Fetid, Acrid, Corrosive; (Acids will not make a Class different from Astringents, neither of them being the Taste of any Specifick Juice.) These

To the Reader.

Summa Genera are sub-divided into Species, by their several Compositions of Tastes, or a particular distinguishing Smell.

I might have added some particular External Accidents of either Seed, Leaf, Root, or Flower, for the Distinction of the Individuals in each Species: But for That I shall *referr* the Reader to Mr. Ray's ~~Catalogus~~ *Plantarum nova*, or his History of Plants; where he may read a full Collection of all the Accidents of Plants, and find a great many Tastes collected by him. Which excellent Book came not to my Hands, till the greatest Part of my Book was transcrib'd; and since, I have read it, and given some Account of the Vertues There mention'd by him.

I hope, I shall make it manifest, in the ensuing Discourse, that there is no Vertue yet known in Plants, but what depends on the Taste and Smell, and may be known by them.

This was, certainly, the Foundation, on which the old Physicians rais'd the Art of Physick; but they were strangely led from it by Aristotle's Philosophy, which taught them to express the Vertues of Medicines, by Hot, Cold, Moist, and Dry; to which, and to Occult Qualities, they attributed all Effects, neglecting the Information of their Senses. But We have now more Advantages,
than

To the Reader.

than the former Ages. By Chymistry we distinguish the Principles which produce each Taste: And the Learn'd Mr. Boyl hath given us a clear and satisfactory Account of Qualities. The Famous Malpighius, and Ingenious Dr. Grew, have discover'd the several Vessels of Plants; and the Last hath given us his Curious Reflections upon Tastes. From the Famous Anatomists of our Age, Harvey, Willis, Lower, Needham, Glisson, &c. we have a clearer Description of the Vessels, Viscera, and Humours of Animals, than was known to former Ages. All which Improvements I found very useful to Me, in the Explication of the Vertues of Medicines by their Tastes: And therefore I ought, here, to acknowledge it, not having leisure to make particular Quotations.

I hope, the Reader will hereby be excited to promote the further Descriptions of Tastes; without which, the Nature of a Medicine, nor the Manner of its Operation, cannot be understood: And let us not confine our selves to Five Empirical Medicines, since there are such Varieties of Tastes; and every Taste hath as certain an Effect, as the Laurel-Bitter in the Jesuits Powder, if we use it in its due Time, Place, and Quantity. The chief Business of a Physician, being to chuse, and apply Tastes, and not to compound Medicines;
for

•

To the Reader.

for That is done by Nature it self: For in those Medicines We call Simple, there are divers Compounded Tastes.

I suppose, there is some Fear upon Physicians, that they should do Themselves some Injury; and therefore have been discourag'd from Tasting: But, I hope, it will be consider'd, how disingenuous it is in some Physicians, who cause their Patients to Swallow, what they dare not Taste Themselves.

The Corrosive and Narcotick Plants may be warily Tasted; and though some of Them will, by being Tasted, get into the Stomach, yet a little can do no Harm. It is true, that Gesner Poyson'd himself; but it was by taking Two Drachms of Doronicum-Root, and not by tasting of it only. I cannot believe, I have receiv'd any Prejudice by Tasting, though I have oft blister'd my Mouth, and disorder'd my Stomach.

I hope, the Candid Reader will pardon those Faults which have happen'd in these Papers, by my Distance from the Press, and the many long and frequent Interruptions I have had by a Country-Practice, and ill Health; which have hindred the making of some Corrections, that should have been made both in the Style and Method of the following Book.

*In Opus Elaboratissimum eru-
diti admodum Viri Joan-
nis Floyeri, Equitis, Au-
rati, & Doctoris Medici.*

MYSTICA Naturæ panduntur multa
(sapore,
Detergens virtus, discutientisque

(patent.
Tincturam Roseam, Lapathumque, Sifym-
(bria, Myrtum,

Communi sensu Styptica Lingua sapit.

Sparsus Odor verè referens Arcana Me-
(dendi

Quidni tantus erit, quantus & ipse sapor?
Quale Rosæ spirant inter sua Lilia mixta;

Thus, Aloe, Muscus, Galbana tale do-
(cent.

Hoc lege, quod crebro tibi fert *Floyerus* ab
(usu,

Cum dulci miscens utile; puncta tulit.
Nil tulit insipidum, si Sal sapit omnia; Odori
Nil tulit ingratum, spirat ubiq; Rosas.

J. GROENEVELT, M.D.

è Coll. Med. Lond.

Natu-



Naturam solitis Medicina aggressa querelis,
Dic, ait, ô Genitrix, quæ tua Nata rogat.
Ignotæ valeant Plantæ quid mille per oras ;
Ac Animal quantum proffit in Arte mea.
Quid juvet, ac noceat, cæcis Minerale Latebris
Pulsum, quæque tuo nunc geris ima sinu.
An miris variata modis nisi ludis in Orbe,
Si solum casus deteget ista modo ?
Respondet Natura ; Meo deprompta recessu
Cuncta patent, debitis excutienda modis :
Præstet quanta Frutex, Animal, Minerale,
(docebit
Vel sapor, ac nares quæ ferit aura levis.
Excolit ecce tuam Floyer Industrius Artem :
It quâ ad summa viâ, quo fuit orta modo.

Hæc Sagacissimo Authori gratu-
labundus accinit.

Christophorus Crelle, M. D.
Medicorum Londin. Collega.



A

Phytological Essay, &c.

The First Part.

Of Tastes in general.

C H A P. I.

The Division of Tastes into Simple and Compound.

THE Organ of *Taste* is curiously described by *Malpighius*, to be certain Nervous *Papillæ*, placed upon the Tongue, and about the Mouth and Throat; which are affected differently in every sort of *Taste*.

Dr. *Willis* affirms, That *Gastatus* is *Quædam*

B

dam quasi tactus species, depending on the different Figures of Bodies; which, by the different Texture and Motion, produce diverse Affections, Alterations, or Modes of *Tastes* on the Organ: As Soft, Hard, Moist, Dry, Smooth and Rough; Grateful, as Sweetness; Ungrateful, as Bitterness, Greenness, and Unctuousness; Cool, Hot, or Temperate; Sharp, Corroding; Salt, Slimy, or Astringent; Contracting the Lips, and Choaking; Vescicating, Exulcerating; Pungent, Penetrant; Aromatick, Fetid, or Abominable; Nauseous, Detergent; Burning in the Throat, Pricking in the Mouth by rough Leaves: And divers other Modes might be added to these.

According to this Consideration, no *Plant* has any Simple *Taste*; but produces different Modes: Neither have the most Simple Principles of *Plants* one Simple Mode or Affection, but two or more depending on their Motion and Texture.

Acids have a different and less Agitation of Parts, than the Organ; and therefore they taste Cool; and by their Angular Figure or Edges, they are Pungent.

Water cools and moistens by the Globular Figure of its Particles; and by their less Agitation, than the Organ of an Animal.

Oyl

Oyl of Plants is of a congruous Temper or Heat; and by the ramose or viscous Parts, is slimy, and of a smooth *Taste*.

Earthy Plants are greety, hard and dry in *Taste*, from the Solidity and unequal Particles of *Earth*.

In distinguishing of *Simple and Compounded Tastes of Plants*, I do chiefly consider the different Textures and Motion of the Original Principles, as producing *Simple Tastes*; and not the different Modes of *Taste*. Therefore, because these Four, *Earth, Water, Acid, and Oyl*, are the Original Principles of *Plants*, out of which some other Compositions are immediately made; as *Salts, Gums, Turpentine and Mucilages*, &c. and because these have a determinate Texture and Motion, whereby they produce some certain Modes of *Taste*; I think fit to call these Four *Tastes*, (viz.) *Watry, Earthy, Oily, and Acid, The only Simple Tastes in Plants*. And where any *Taste* depends on diverse Principles, that *Taste* is justly esteem'd Compound; having a certain Texture, and Motion, resulting from the Composition of the different Textures, and Agitation of the Principles; which produce a different *Taste* in Composition, from the *Taste* of any Principle.

dam quasi tactus species, depending on the different Figures of Bodies; which, by the different Texture and Motion, produce diverse Affections, Alterations, or Modes of *Tastes* on the Organ: As Soft, Hard, Moist, Dry, Smooth and Rough; Grateful, as Sweetness; Ungrateful, as Bitterness, Greenness, and Unctuousness; Cool, Hot, or Temperate; Sharp, Corroding; Salt, Slimy, or Astringent; Contracting the Lips, and Choaking; Vescicating, Exulcerating; Pungent, Penetrant; Aromatick, Fetid, or Abominable; Nauseous, Detergent; Burning in the Throat, Pricking in the Mouth by rough Leaves: And divers other Modes might be added to these.

According to this Consideration, no *Plant* has any Simple *Taste*; but produces different Modes: Neither have the most Simple Principles of *Plants* one Simple Mode or Affection, but two or more depending on their Motion and Texture.

Acids have a different and less Agitation of Parts, than the Organ; and therefore they taste Cool; and by their Angular Figure or Edges, they are Pungent.

Water cools and moistens by the Globular Figure of its Particles; and by their less Agitation, than the Organ of an Animal.

Oyl

Oyl of Plants is of a congruous Temper or Heat; and by the ramose or viscous Parts, is slimy, and of a smooth *Taste*.

Earthy Plants are greety, hard and dry in *Taste*, from the Solidity and unequal Particles of *Earth*.

In distinguishing of *Simple and Compounded Tastes of Plants*, I do chiefly consider the different Textures and Motion of the Original Principles, as producing *Simple Tastes*; and not the different Modes of *Taste*. Therefore, because these Four, *Earth, Water, Acid, and Oyl*, are the Original Principles of *Plants*, out of which some other Compositions are immediately made; as *Salts, Gums, Turpentine and Mucilages*, &c. and because these have a determinate Texture and Motion, whereby they produce some certain Modes of *Taste*; I think fit to call these Four *Tastes*, (viz.) *Watry, Earthy, Oily, and Acid*, *The only Simple Tastes in Plants*. And where any *Taste* depends on diverse Principles, that *Taste* is justly esteem'd Compound; having a certain Texture, and Motion, resulting from the Composition of the different Textures, and Agitation of the Principles; which produce a different *Taste* in Composition, from the *Taste* of any Principle.

I. *Compound Tastes* (consider'd as particular Textures of *Plants*) arising from some of the Four Principles of *Plants*, are,

1. *Bitter*, which is compounded of *Oyl*, *Acid* and *Earth*; having an unequal Texture; detergent, unpleasant: Compar'd by Dr. *Willis*, to the Head of a Teasle or Brush.

2. *Astringents* are compounded of *Acid* and *Earth*; having a roughness in Texture, contracting and exasperating.

3. *Mucilaginous* is compounded chiefly of *Oyl*, *Acid* and *Water*; and of a smooth Texture, cooling and moistening.

4. *Pungent* is compounded of an *Oily-Acid*, and with some *Earth*, united, by Fermentation, into *Volatile Salts*; or, by Fusion in the Fire, into *Fixt Salts*; both of which taste Salt, Pungent, Penetrant, Drying, from their long sharp-pointed Figures.

5. *Sweet* is compounded of a Rarefy'd, and well-digested *Oyl*, and *Acid*; whereby it is of a smooth Texture, grateful, and easily convertible into Bitter; having the same Principles, by the Alteration of the Texture only.

Note, I do not find any Saltnefs naturally

rally and considerable in *Plants*; but only externally, from the Sea-Water: And therefore, do not reckon That a *Taste* amongst *Plants*, because the Natural Salt of *Plants* tastes only Pungent.

Diverse Tastes are compounded of a *Simple Taste*, and a *Compound*: As, II.

1. *Acrid* is compounded of a little *Oyl*, and a great deal of *Salt*; being Hot, Pungent, and Burning.

2. *Acerbs* are compounded of *Acid* and *Astringent*; being partly of Angular, and partly of a rough Figure.

Tastes arising from *Compounded Tastes* mixed, are, III.

1. *Nauseous*, which is compounded of Bitter-sweet, or Bitter-slimy; and of a Texture deterging and smoothing.

2. *Austeres* are compounded of *Bitterish* and *Astringent*; and are of a very rough Texture.

3. *Nitrose* is compounded of *Cozl* and *Bitter*: *Plants* of this *Taste* are Watry, Slimy, and Bitterish; as *Beets*.

IV. *Tastes* compounded of other *Compound Tastes*, and a particular *Smell*, are,

1. *Aromaticks*, which are compounded of *Acrids*, *Bitterish* or *Sweet*, with a *Fragrant Smell*.

2. *Fetid Tastes* are compounded of *Bitter*, *Acrid* or *Mucilaginous Tastes*; with a *Fetid Smell*.

3. *Cress-Tastes* are compounded of a *Bitterish* and *Acrid Taste*, and a quick *Pungent Smell*, which flies from the Tongue into the Nose; as *Mustard-seed*, &c. And we find many *Plants* Tasting as they Smell.

To describe the different Affections of the Organ by *Taste*, I think unnecessary: For the *Eyes* know particular Colours, without discerning and distinguishing the manner of their Impression; and by the *Feeling*, we know many Things, though we distinguish not all the Qualities we feel; So the *Taste*, whose Sense is like the touching of an Object, knows (Watry, Earthy, Acid, Greety, Astringent, Mucilaginous, Oily, Bitter, Sweet, Resinous, Gummy, Terebinthinate, Aromatick, Abominable, Pungent, Corrosive, Hot and Cool, Crude, Melowly, Nauseous *Tastes*, and *Pea-Tastes*) immediately, without considering the particular

cular Mode by which they affect. And because these are the common known *Tastes*, out of which other *Tastes* are made; therefore these respectively may be call'd *Simple Tastes*, because the *Compound Tastes* of *Plants* are produc'd by a Mixture of these. And these *Compound Tastes* are observable, either in the same Liquor; as in *Turpentine*, Bitter, Slimy and Acrid may be Tasted; and in many Milks of *Plants*, Bitter, Acrid and Gumminess: Or else the *Compound Tastes* are lodg'd in different Vessels and Liquors; as in the *Lymphatics*, is a sweet *Lympha*; in the *Muciducts*, a *Mucilage*; in the *Lactiferous* Vessels, a *Milk*, which is either Bitter-Acrid, or Bitter-Smoaky, or Sweet; in the *Balsam* Vessels, a *Turpentine*; in the *Parenchymous* Parts of *Plants*, a crude *Juyce*; in the *Ligneous* Parts, a *Lympha*; in the *Skins* of *Fruits*, and the *Stones* and *Seed*, a different *Taste* from the *Juyce* of the *Pulpy* Part. The *Roots*, *Stalks*, *Leaves*, and *Fruit* of some *Plants*, have their different *Tastes* from the different *Digestion*, *Mixture*, *Texture* and *Colature* of the *Juyces* of those *Plants*, in their several Parts.

C H A P. II.

*Of the Virtues of Tastes,
and the Principles by which
they are produced.*

IF we use the Testimony of our *Senses* for the discovery of the Principles or Ingredients, out of which the Juices of *Plants*, by different Mixtures, are produc'd; they will inform us of *Earthy*, *Watry*, *Oily*, and *Acid* Principles; and a Pungency, which is a *Salt*.

- I. *Earthy* Parts are in *Mosses* and *Woods*; from whence arise dry *Tastes*.
- II. *Water* in all *Plants*; which is sufficiently evident in Distillations of them, and in their Juices. The *Watry* Part is supplied by *Rain* and *Dew*; whose great quantity this Year, (1685.) has made many *Plants* prodigiously great: But in the two last dry Years, the want of them either dwarfed them in their Growth, or hindered their Production, or preserved them not sufficiently from the scorching Heat. This is the
the

the Vehicle of the other Principles, in which the *Acid* swims readily, as also the Pungent Particles, and combine together; as *Acid* and *Alkali*: In this the *Oyls* are mixed, by means of the *Acid* and *Earth*.

From these Two Principles of Plants, these following Tastes arise:

From much *Earth* in *Plants* arise, *First*,
A dry Earthy Taste, as in *Mosses*; *Secondly*,
A Woody Taste, as in *Trees* and *Barks*.

I.

From much *Water* mixt with *Earth* and
Acid, arises a crude or raw Taste, as in *Spinach*, *Chick-weed*, &c.

II.

From much *Water* mixt with *Acid* and
Oyl, or from smooth Oily-Earthy Parts,
like *Marle*, or *Bole* diluted, and some *Acid*,
arises a Mucilaginous Taste; which I
refer to the Watry Tastes, because *Water*
most abounds in it.

III.

CHAP. III.

Concerning Mucilages.

That *Mucilages* in *Plants* depend on the *Oyl* much diluted, is manifest from the following Instances.

Linseed affords an *Oyl* by Expression, and a *Mucilage* in Decoction.

Almonds afford an *Oyl* by Expression, and a slimy Mucilaginous *Milk* in Emulsions.

Poppies are very Mucilaginous, and contain an *Oyl*, as appears by a Milky Juyce; and an *Oyl* is pressed out of *Poppy-seeds*.

Henbane smells Oyly, and is Mucilaginous, and feels Oyly, and Clammy; and the Seed yields an *Oyl* by Expression.

These *Plants* that smell of a rank *Oyl*, as *Goss-Flowers*, and most of the *Pea-Taste*, are Mucilaginous: So that from these Instances, I may infer, that a crude *Oyl* diluted well with Water, makes a *Mucilage*; which may be farther proved by the effects of a *Mucilage*, compared with the effects of *Oyl*.

Mucilages cause a smoothness in the Palat, and outwardly are Emollients, as *Oyls* be,

be, and ripen Imposthumes; inwardly they are more cool than Oyl, though of a congruous Nature: They defend the Throat from the sharpness of Rheums; the Stomach from corrosive Humours or Medicines; the Ureters from sharp Cholerick or Acid Urine; and smooth the passages for the Stony Gravel; they cool the hot scorbutick Blood, by their crude and ropy Parts, stop its violent Motion, and inviscate its Acrid Saline Particles. Oyls have a *Mucilage* joyned with them.

I distill'd some *Gum-Arabick* in an open Fire, and in an Earthen Retort, and found an *Acid Spirit* of a smoaky *Smell*, and a good quantity of Oyl; but the Earthy parts exceeded all, *Gum-Arabick* being a clammy *Mucilage*.

But I cannot but think the *Mucilage* in *Comphrey*, which tastes as if Meal and Water were mixed together, depends upon a mixture of some Farinaceous Parts, which are the immediate Causes of *Mucilages*, (which Farinaceous Particles are resolvable into Oyl and Water chiefly, and have the same Principles as other *Mucilages*) and which are proper nourishment for the *Parenchymous* Parts of *Plants*: These being in plenty mixed with Water, cause a slimy Slipperiness, observable by rubbing in the Fingers,

Fingers, as well as by the *Taste*: Such is the *Mucilage* in *Althæa*, *Mallows*, *Typha*, &c. which also being dried to Powder, produce a sort of Mealy Powder. All the Farinaeous Plants, as *Barley*, *Oats*, *Wheat*, do yield an *Oyl*. And *Bonetus* gives us an Instance of Roots of *Althæa*, which applied in the form of a *Pultis*, raised Blisters; and *Comphrey*-Roots discuss Gouty Tumors: So that these crude *Mucilages* have more Volatile parts frequently mixed with them.

Those diversities of Taste that arise from Mucilage Compounded, are either Cool or Hot.

§. I. Cool Mucilages,

- I. With much Water, called the *Watry Mucilages*, as in *Parslain*, &c. these have the effects above described, being the most Simple *Mucilages*.
- II. The Earthy *Mucilages*, such as in *Mushrooms*; and these repel, and cool Inflammations outwardly.
- III. If the Water be little, the *Mucilage* is thick, gummosse, clammy, or Mealy; as in *Comphrey*, and Watery Gums: They stop Fluxes, and correct sharp Humours.

II. Hot

§. II. Hot Mucilages.

Mucilages with a rank Oyly Smell, as in *Goss-Flowers*, and the *Pea-Taste*, are proper for *Anodyne Oyntments*.

I.

Mucilages with an Aromatick Smell, either in Leaves or Flowers, as in *Erigerum*, and the *Lily-kind*: These Mealy *Mucilages*, with a *Lily-Smell*, digest, ripen and suppurate Tumors.

II.

The Bitter *Mucilages* outwardly soften, and discuss inwardly; are Vomitors and Purgers, being the truest Character of Nauseousness in *Plants*.

III.

Mucilages with Pungency Acrid, as in *Lyfimachia*; and these are properly *Diureticks*: By the *Mucilage*, they smooth the passages of Urine; and by their *Acrid Salt*, they dissolve Acid Tartareous Concretions in the Kidneys.

IV.

Mucilages with a Narcotick Smell, by their hot Narcotick Parts discuss, and allay pains; by their *Mucilages*, they soften and are *Anodyne*.

V.

Muc-

- VI. *Mucilages* with Astringency, have their Taste from the different parts of Plants; as in *Plantane-Seeds*, the Husk is Astringent, the Pulpy part of the Seed Mucilaginous.

CHAP. IV.

Concerning Acid in Plants.

THE Third Principle our Senses discover in Plants, is *Acid*; perceivable by Taste and Smell, in *Sorrel*, &c. This seems to affect the Taste with a cool Sharpness, not unlike the *Spirit of Sulphur*; and is probably supplied from the *Mineral Kingdom*: This *Acid* has not the Bitterness of *Nitre*, nor the Saltiness of common Salt, nor a *Vitriolate Relish* from any *Mineral*; but is pure cool *Acid*.

*Vide Tartar
amongst
Salts.*

The Crystals of *Tartar* are sowre. Crystals of *Wood-Sorrel* are also sowre, like *Tartar*: The Essential Salts of Plants differ not from *Tartar*. *Vinegar* is more Spirituous than the former, being a Winy Subacid Liquor.

The

The *Acid* is obvious in the most bitter *Plants*; as in Extracts of *Worm-wood* and *Horehound*, and in all Extracts: In the *Plant* they are not perceived, because of the Strength of the Bitterness that affects the Palat most; though the *Acids* temper the *Bitter*, and the *Bitter* the *Acid*.

Acids are never alter'd in the *Plant*, so as to lose their Nature, though they undergo divers Mixtures; but when they are reduc'd into *Volatile Salts*, by being compounded with *Oyl* and *Earth*.

Acids mixt with much *Water*, are the purest *Acids*. I

Acids mixt with a little *Water*, and much *Earth*, produce an Astringent Taste. II.

Acids with *Water* and *Earth* more loosely mixt, produce a rough Taste; as in *Sloes*, which is a greater degree of Astringency: And in this Taste the *Acid* and *Earth* are in equal quantity. III.

The Fourth *Acid* Composition is *Acid Oleose*, as in *Terebinthines*; and these always have an Astringency joyn'd to the Bitterness, which arises from the *Oyl* and *Acid* in *Turpentine*. IV.

Dr. Grew

Dr. Grew asserts, That many stillatitious Oyls, digested with any strong *Acid*, will acquire a bitter *Taste*: And therefore, *Myrrhe*, *Gentian*, and all bitter *Gums* distilled, yield *Acid* Liquors. I shall hereafter deduce the Bitterness of *Plants* immediately from *Turpentine*; but remotely from the mixture of *Oyl* and *Acid*.

V. *Acid-Acid*, as in *Rosa Solis*; In these the *Volatile* and *Acid* combine. And since *Rosa Solis* is accounted a *Caustick*, 'tis probable, other *Caustick Plants* may have the same mixture. These are proper for *Treacle-Water* to cool by their *Acid*, and sweat with their hot Parts, or to provoke *Urine*. *Mixed Salts*, and hot *Herbs*, tempered by the mixture of *Acid*, are profitable in *Fevers*.

VI. *Acid* sweet, such as in all Ripe Fruits, as *Cherries*, ripe *Grapes*; these make the *Acid* more easie to the *Stomach*, and less fretting, as in *Spiritus Salis Dulcis*: These excite *Appetite*, and cool the *Blood*.

VII. *Acid* and *Bitter*; these promote *Urine*, as in *Alkakengi-berries*, and *Quicky-berries*, and have an *Anti-Febrile* vertue from *Acid* and *Bitter*; as in *Bezoardick* mixtures, which are *Bitter-Acid*. The

The Effects of *Acids* in the Body are to coagulate, and fix *Choler*, and the Volatile *Salts* in the Blood, by uniting with the *Salt*, and rendering them like common *Sal Ammoniack*; and so *Acids* become Diuretick; as also, by dissolving the gritty Matter of the Stone, and mixing with it, by coagulating the *Serum* of the Blood; as *Serum Sanguinis* turns white by the mixture of the Spirit of *Nitre*, and by thickning its Consistence, which is a less degree of Coagulation. *Acids* hinder the rarefaction of the Blood, and its Extravasation; as also, all Heats and Sweats, *Cholerick Loosenesses*, and Thirsts: Rough Astringents do the same thing, but more weakly, having the *Acid* obtruded by the *Earthy* Parts; but by that they are more proper for Loosenesses and Fevers.

Acids do also excite the Appetite, by stimulating, and hinder the over-quick Fermentation of the *Chyle*, and separation of its Spirituous parts, in Windy Exhalations: And for that reason we mix *Vinegar* with Hot Meats and Herbs, and eat cool Fruits after Meat. *Vinegar* is the best Antidote against any Poyson, from Acrid Herbs.

C H A P. V.

Concerning Astringents.

ASTRINGENTS are,

- I. Either *Watry-Astringents*, in which Water is most plentiful; which are convenient in hot Diseases, with Fluxes of Blood, or Stools; as *Plantane*, *Knot-Grass*.

I distill'd the Roots of *Flaggs* in an open Fire, and had a great deal of *Acid*, and very little *Fetid Oyl*, and much *Caput mortuum*: This was like the distill'd Liquor of *Woods*.

- II. *Bitter-Astringents*; where the Astringency is mitigated by the Bitterness, which depends on a crude *Turpentine*: These, by their Bitterness, make the *Astringent* Faculty more agreeable to the Stomach and Blood: By their Bitterness they help and preserve the mixture of the Blood; and by their Astringency, which is an *Acid in potentia*, precipitate some Feverish parts, which are separated from the mixture of the Blood; so *Jesuits Powder* works; and *Tormentil-Roots* have been us'd for the same purpose; and so may the Barks of That taste.

taste. 'Tis manifest, that upon giving the *Jesuits Powder*, a sharpness of *Urine* is sometimes observable; and when it succeeds, the *Water*, which at first look'd like Strong Beer, high colour'd, and reddish, turns after a while muddy; the separable Feverish Sediment is precipitated, and the top of the *Urine* is thin and clear, by the separation of Parts: So that, after the use of the *Jesuits Powder*, whose Vertues are evident to the *Taste*, being bitter Astringent, the prevailing Bitterness preserves the mixture of the Blood, and the Astringency separates some easily-separable Parts; which not continuing in their right equal Mixture with the rest of the Blood, cause the Fever, as being Heterogeneous, and raise a Fermentative Commotion for their Segregation. And it is usual with Practisers, to guess and assert the Alterations in the Blood, to correspond to those observable in the Water. It may be, our Country cannot afford such an exact Mixture of *Bitter* and *Astringent*, as in the *Jesuits Bark*; but I believe it does.

It may be, we cannot mix *Bitter* and *Astringent* Tastes, in the same Proportion, as Nature has done in the *Cortex*: However, it's evident, that these Qualities of *Bitter-Astringent* are in the *Cortex*; and we

cannot imagine any other so probable to work those Effects which it does; for *Tormentil-Root* and *Cinquefoyl* have been tryed and approv'd in putting off *Agues*.

III. *Sweetish Astringents*, or the *Fern-Tastes*, which have a slight Bitterness also. These *Ferns* are good Vulneraries, stop *Fluxes*, and abate the Fermentation of the Blood in Hypochondriack Scurveys, by their Cru- dity and Astringency: So *Chalybeats*, as *Vitriol* of *Mars*, taste sweet Astringent; the Sweetness is most perceptible in the *Poly-pody-Root*. In the Female *Fern* the Mucilage is great; the Astringency is evident in the Male, and in *Lonchitis*; but in the Leaves of *Osmunda*, the Mucilage; in the *Root*, the Astringency, Bitterness, and *Orris* Smell. *Maiden-Hair* is *Sweet-Astringent*, which seems to me the true Character of a *Fern-Taste*; though some Varieties are observable, as I have noted.

IV. The *Aromatick-Astringent* must be consider'd amongst the *Aromaticks*.

CHAP. VI.

Concerning Bitterness in
Plants.

THE Fourth Principle our Senses discover in *Plants*, is *Oyl*, which produces Bitterness, and *Aromatick Tastes*, plain *Turpentine*, and *Fetid Smells*, with a *Taste* contrary to an *Aromatick*.

The most crude state of *Oyl Vegetable*, is in *Mucilages* and *Sweetness*; the next is in *Bitters*, which have their *Taste* from a *Turpentine* mixed with much *Earth*, and fixed by an *Acid*; as the following Instances will convince.

Hypericon Leaves, the Roots of *Valerian*, *Herb Robert*, and especially the Leaves of *Chamæpitys*, or *Groundpine*, taste Bitter, and smell of *Turpentine*: The *Taste* of *Turpentine* it self, is Bitter; and so is the *Taste* of most *Gums*, which are the product of *Turpentine Trees*, and *Plants*; as *Myrrh*, *Ammoniacum*, &c.

If we consider how many *Plants* are *Aromatick*, arising from *Turpentine*, how many are *Resinous*, and the constant

Greenness of many *Trees* and *Plants*, which depends on *Turpentine* (which did not Freeze in the hard Winters); It will seem more probable that Bitterness depends on *Turpentine*, which is Compounded of *Oyl*, *Acid* and *Gumminess*.

Bitters yield a great deal of *Oyl* by Distillation, as *Wormwood*, *Centaury*, *Bitter Almonds*; *Olives* have also a Bitterness.

The Milk of *Bitter Plants*, as *Sonchus*, *Facea*, and *Celandine*, is exceeding Bitter; and it must needs be allowed, that the Milk is *Oyl*, diluted by much Water. *Bitters* have generally some *Fetid Smell*, or *Aromatick Odour*: which shews us, that *Bitter Plants* abound in *Oyl*, from whence Odors chiefly arise. The Flowers of *Orange* and *Elders*, are Bitter; and so are the Fragrant Flowers of other *Trees*, as *Sloe-Trees*, *Jessamy*, *Roses*, *Hawthorne*, *Lilies* of the Valley.

The *Turpentine* in *Bitters*, is fixed by an *Acid*, which readily coagulates the *Oleous* Parts, if it be a strong *Acid*; but a mild *Acid* only detains *Oleous* Particles in their mixture with Water; as it appears by Milk; for in the making of *Butter*, the *Oyl* is visibly separated in the form of *Butter*; and the *Acid*, which kept it fluid, is apparently in the *Butter-milk*. This *Acid* by

by dividing the viscous *Oleous* parts of the *Butter*, rendred it fluid in the *Milk*; and from thence its Whiteness depends.

In Distillation of *Fats* and *Oyls*, an *Acid* appears; as also in the Distillation of *Gums*, which may artificially be produced, by the mixing of *Oyl* and *Acid*.

On this *Acid* in *Bitters*, joyn'd with much *Earth*, an *Astringent* Faculty depends, which is eminent in many *Bitters*. That much of *Earth* concurs to the production of *Bitters*, and fixing of *Turpentine*, appears, in that all *Bitters* produce much *Salt*, which we call *Fixed* (this being nothing probably, but the Union of *Acid* and *Earth* by calcination) but the *Oyl* in which the Bitterness resides, is easily driven away by the Fire, and remains not in the *Salt* or *Earth*; whence it is also proved to be an *Oyl*, fixed by its crude Associates, *Acid* and *Earth*.

I distilled half a pound of *Gentian Roots*, in an Earthen Retort, in an open Fire; from it was 'stilled an *Acid* Liquor, with the Water, and a Bitter *Oyl*, without any Volatile *Salt*; which confirms my *Hypothesis*, of Bitterness being an *Oyl* fixed by *Acid*: and the *Caput Mortuum* exceeded all the Liquor in the Receiver.

C H A P. VII.

*The Table of the Varieties of Bitter Tastes, Compound-
ed, and their Vertue.*

They are either,

§. I. *Cool Bitters.*

Bitterish *Astringent* in the *Dock* kind, *Hydro-Lapathum*, *Sorrel*, *Tormen-til*, &c.

These cool Inflammations inwardly and outwardly; they check the Paroxysms of *Agues*, by their *Astringency*, (which is a latent *Acid*, Associated with *Earth*): By their *Bitterness* adjoined, they cleanse the Stomach, excite Appetite: By their *Astric-tion*, and their *Bitterness*, they preserve the Blood from Putrefaction: In short, they imitate the effects of *Bezoartick* mix-tures, consisting of *Bitter* and *Acid*.

II. *Watry-Bitter*; when the *Bitter* is much diluted by *Water*, as in *Fumitory*, *Succory*, &c. which cool the Blood, and dilute it
by

by their Waterishness; and by their *Bitterness* amend the Acidities, and cleanse the Choler, by taking off the coagulating *Acid*, which coagulates its Lymphatick Vehicle; therefore these *Tastes* are *Cholagogues*, and *Diuretick*, cooling also in *Fevers*.

Bitter-Acid, which works stronger than the *Bitter-Astringent*; they are *Diuretick*, and *Antifebrifick*, by their *Acid Bitterness*. III.

Bitter-Sweet, as in the *Pea-Taste*; by the Sweetness they lenifie the sharpness of Humors; by the Bitterness they cleanse the *Stomach*, *Kidneys*, and *Lungs*. IV.

§. II. Of Hot Bitters.

A middle state of Vegetable Oyl, is observable in *Turpentine Plants*, as in *Hypericon*; and their *Smell* and *Taste* will evince them to be pure *Turpentine*; their *Taste* is *Bitterish* and *Astringent*, and their *Smell Terebinthinate*: in these the *Acid* fixes much on the *Earthy Parts*, and produces an *Astringency*; whereby the Oyl is more loosned from it. It's well known, that all *Turpentine* and *Gums* have a latent *Acid*, whence they are more easily distilled by additions of *Absorbents*; and their true Vertues

I. *Vide Sulphur*

Vertues best Extracted by *Tinctura Satis Tartari*. The Vertues of *Turpentine Plants* depending on the Oyl, are *Pectoral*, *Cleansing*, and *Diuretick*; and by their *Astringent* Faculty stopping; but by both *Vulnerary*: for what better *Vulnerary* can there be, than that which is *Cleansing*, and *Astringent*, and smells *Balsamick*, as *Turpentine Plants*? These *Plants* do bear the name of *Balsamick*, which are *Terebinthinate* and *Aromatick*; as *Botrys*, *Mecha-Balsam*, *Juniper*, *Ladanum segetum*; and these are more agreeable to the *Stomach*, than ordinary *Turpentine*; and besides, their *Vulnerary* Faculty may be *Cordial*, they being also *Aromatick*.

To these I must add another Class of *Balsamicks*, which having *Turpentine* in their *Smell*, give a *Smell* like dead *Nettle*; so in red *Lamium* there is a *Turpentine* flavor, but another *Smell* is perceived also. In *Panax coloni*, and *Sideritis*, there is the same *Dead-Nettle* *Smell*; and in *Galeopsis* both *Smells* are perceivable.

A third degree of *Balsamicks* is in the *Geranium Moschatum*, and *Geranium Columbinum*, which taste *Astringent*, & smell of *Musk*; and since other *Geraniums* smell of *Turpentine*, but these of *Musk*, I do suppose that the highest state of the Oyl Vegetable, is a rarefied

rarefied *Turpentine*, which thereby becomes Odoriferous: Hence *Terebinthinales* taken inwardly, after a farther separation from their *Acid*, by the Salts of the Blood, cause a Violet Smell in the *Urine*, because *Aromaticks* produce the same effects in the *Urine*; therefore *Aromatick* Odors, and *Turpentine*, are of an agreeable nature. Many *Turpentine Balsams* are of an *Aromatick Smell*, as *Balsam de Tolu*, *Balsam Mechæ*, *Balsam Peruvian*, *Benjamin*, *Storax*; and many Herbs, as *Ladanum segetum*, and *Botrys*, which have a Fragrant *Terebinthinate Smell*; and so has *Juniper*, *Cedar*, and *Sassafras*; besides Oyl of *Turpentine* will easily extract these Fragrant Oyls from Vegetables, and is frequently mixt with them by Sophistications; whence I may argue, that they differ only as *Turpentine* is mixt with a latent *Acid*; and as the other are more pure from *Acid*; and therefore more *Æthereal* or Odoriferous: The Roots of *Valerian* smell like *Turpentine*, and the Flowers like *Jessamy* a little dried.

Strong Bitters, with a Fetid Odor, as *Ballote*; these by their Bitterness correct *Acids* in the *Stomach* and *Blood*, and by their Fetidness amend the *Acid* in the Nervous Juyce, and cause an equal expansive

II.

five motion of the Spirits, and prevent their unequal distribution into some Nerves, as in Fits of *Convulsion*.

III. *Strong Bitters*, with a Pungency, or Acrid *Bitters*, as in *Celandine*; these correct *Acids*, and open Obstructions also, by giving a quick motion to the *Blood*, which is done by their Volatile Bitter Oyl, and Volatile Pungent Salt, on which their Taste and Vertue depend.

IV. *Strong Bitters Aromatick*, as in *Wormwood* and *Eupatorium Cannabinum*, they work by their Volatile Oyl and Salt on the *Blood*, and *Stomach*; whence they are accounted *Antidotes* against *Coagulations*, *Venoms*, and *Festilential Infections*.

V. *Strong Bitters* only, or pure *Bitters*, without any *Aromatick* or *Fetid* Odor, or Pungency; such is the Bitterness in *Bitter Almonds*, and *Centaury*, their parts are more fixed than any of the other *Strong Bitters*: These cleanse the *Stomach* from *Acid Phlegm*; open the *Liver*, by correcting the coagulating *Acids* in the *Blood*; they mix with *Acids*, and pass by *Urine*; they preserve the *Blood* from coagulation, and help the office of the crude *Bile* in *Hydropical Cachexies*,

Cachexies; they have an Astringency by their *Acid* and *Earthy* Parts, which abounding in *Bitters*, help the *Oyl* in correcting *Acids*. The Principles of *Bitters* united by the Fire, produce fixt *Salts*, which correct *Acids* better than *Bitters*; which also act as fixt *Salts* in all their effects.

Elder-Bitters and *Smells*, as in *Scrophularia*; these have a discussing Faculty outwardly, by their *Fetidness* and *Bitterness*.

VI.

Nauseous Tastes, which are,

VII.

1. *Nauseous-Bitter*, which depends on a composition of *Mucilage* and *Bitter*, as in *Bryony-Roots*, *Squills*, Berries of *Spina Cervina*, and *Fox-Gloves*; the *Mucilage* in the *Stomach* relaxes the *Fibres*, and causes the *Bitter* to stick longer on them; and so to act more strongly in Vomiting and Purg- ing; the same *Taste* is in *Polygala* and *Sena*.

2. A *Nauseous Taste* depends on a sweet *Bitter*, mixed with *Mucilage* and *Pungency*, as in *Aloes*, *Agarick*, *Rubarb*: And *Docks* want only the Sweetness; but have *Bitter*, *Slimy*, *Sub-acrid Astringency*.

3. Too

3. Too much *Sweetness* is Nauseous; so is *Manna*, *Honey*, *Polypody-Root*; a Sliminess or Gumminess is in *Honey* and *Manna*.

4. Too much *Bitter* is Nauseous: Thus, in sweet *Gall*, the over-much *Sweet* or *Bitter*, over-impregnates the *Papillæ* in the *Mouth* and *Stomach*, and cause an aversion in the *Stomach*; as too much *Light* offends the *Eyes*, and makes them *Water*.

5. An ill *Smell* gives a Nauseousness; as in *Aron Pouches*, whose *Smell* will make any one vomit: And such have been the *Smells* of many *Herbs* which I bottled with warm *Water*, as *Henbane* and *Spurge*.

In *Tastes* depending on a *Volatile Oyl* of *Vegetables*, (with which is mixed a *Pungent Volatile Salt*) this *Oily Salt* produces either an *Aromatick* or *Fetid Smell*, and a pleasant *Aromatick* or *Offensive Taste*. The *Taste* is *Aromatick*, when the *Sense* is briskly affected, and a pleasing *Agitation* of *Spirits* produced.

Aromaticks affect both the *Smell* and *Taste* gratefully; they have a motion of *Particles* and *Texture*, agreeable to the *Motion* and *Texture* of *Spirits*: *Spirits* of *Vegetables* differ nothing from their *Oily Salts*, but by their being largely diffused in

in a Vehicle ; and an Oyly Salt is a Spirit contracted, and without a Vehicle.

I.
The effects of *Aromaticks* on the Body, are to warm the *Stomach*, and discuss *Wind*; and these constitute the Class of the Sweet *Aromaticks*, or *Fennil-Tastes*: These are accounted Carminatives, because they rarefie the flatuous exhalations from the *Chyle*, in the *primæ viæ*, and so discuss them. These by their Sweetness allay the sharpness of *Rheums*, and lenifie their Acrimony: They are full of an Oyly Salt, by which they open the Passages of the *Lungs* and *Kidneys*: They extraordinarily discuss *Tumors* outwardly, by opening the *Pores*, and attenuating the matter included: The same Taste is spread through all the parts of the *Plant*, by the Oyly Salt: These *Plants* are umbelliferous.

An Oyl may be distilled from these *Plants*, which has the Taste, Smell, and Virtue of these *Plants*: Whence I conclude, the Taste and Smell to proceed from the Oyl and Volatile Salt associated.

II.
The Second Class of *Aromaticks*, is the Bitterish *Aromaticks*, as *Rosemary*, *Marjoram*, *Basil*, *Calamint*, and *Penny-Royal*: By their Bitterness adjoined to their Volatile Oyl

Oyl and Salt, they correct *Acids* in the *Stomach*, cleanse the *Lungs*, and open Obstructions in the *Glands*, caused by coagulate *Serum*. The same effect is produced by the *Saline Pungent Oyl*, in altering the *Acids* in the *Glands* of the *Brain*, in correcting and attenuating its *Lympha*, and *Succus Nervosus*; which, as all other Glandulous Humors, are prone to Stagnation, and Acidity: These *Aromaticks* by exciting their Motion, correcting Acidities, and thereby rendring the *Succus Nervosus* more Volatile, deserve the name of *Cephalicks*; and it's not improbable, that the Volatile parts dispose the Medicine to circulate towards the *Brain*, as Windy Liquors disturb the Head, and no other part. These Medicines evacuate *Serum* from the Blood, promote its circulation, and attenuate all the Humors of *Chyle*, *Serum*, *Lympha*, and *Succus Nervosus*; these agree in Virtue with the *Fennil* Class, except that these work more by their Bitterness, as well as by the Pungent Oyl.

The same Taste in these is spread through the whole *Plant*; only the Bitterness depends on a fixt Oyl or *Terebinth*; but the *Aromatick* on the Oily Salt.

III.

Aromatick-Acrids, as *Pepper*, *Ginger*; these have

have a very Acrid Volatile Salt and Oyl. All *Aromatics* are Cordial, by rarefying the Blood by their Volatile Parts; but the *Acrid-Aromatick* is the highest, having most Volatile Salt in it; whereas the former have more Oyl than Salt. These *Acrid-Aromatics* have either a Sweetness, or Bitterness; and may be referred to the former Classes.

Aromatick-Astringents: As *Aromatics*, IV;
they are Cordial; and from their *Astringency*, they strengthen the *Fibres* of the *Stomach* and *Membranes*, and all Nervous Parts; and by an *Acid* evident in their *Astringency*, they hinder the greater Rarefaction of the Blood by their fragrant pungent Oyl.

CHAP. VIII.

Of Tastes joyned to Fetid Smells, making them contrary to Aromatick.

WHEN the Oyl and Salt of *Plants* are in very great Proportion in any *Plant*, so as to emit violent Steams, offending the Organ of *Smelling*, but chiefly (forcibly) repelling the *Spirits* towards the *Brain*, (which creates an Aversion to it) a *Fetid Smell* is perceived.

That a *Fetor* proceeds from Oyls, appears by the Smell of *Rancid Oyl*, and all distill'd Oily Substances; as *Fat*, *Butter*, and *Oyl-Olive* distill'd.

That a *Fetor*, in the highest Degree, has also a Volatile Salt admixt, is proved by the Excrements of *Animals*, putrefied *Flesh*, *Urine*, *Blood*, and putrefied *Vegetables*; which yield a Volatile Salt. It does appear by divers Herbs bottled with Water for two Months, that a *Fetor* is produced; from the *Mucilaginous*, as *Mallow-Leaves*; from the *Bitter*, as *Artichok-Leaves*;

etid
con
Plant
tion
nit via
f Smel
ng th
creat
is pe
appea
diffu
and G
Degre
prom
utrech
Veg
It dr
ith W
is po
Mallu
rtichu
Leave

Leaves; from the *Narcotick*, an exceeding *Fetidness*, as *Henbane-Leaves*; from the *Excoriators*, as *Spurge*: These smelling like the Excrements of *Animals*. *Horse-radish* smelt like *Garlick*; *Sorrel* like *Horse-dung*. Putrefaction concurs to produce these *Fetors*, by Separation of a Volatile Oyl and Salt, from the *Acids* and *Earthy* Parts of the *Plants*: So *Spirit of Soot* has an Oily Salt; and the Fetid Oily Salt is easily separated from *Urine* and *Blood*, after Putrefaction. Many *Acrid* Plants are *Fetid*; so *Sophia Chirurgorum*, and the *Pouches* of *Aron*, are abominable. *Cotula Fætida*, *Nettles*, *Garlick*, and *Onyons*, have an *Acrid Taste*, and are very *Fetid*:. So is *Galbanum*, *Assa Fætida*, and *Sagapenum*. Divers *Bitters* are *Fetid*, as stinking *Horehound*; and all *Elder-Smells*, as *Scrophularia*, are *Bitter-Fetid*: So the stinking *Gums* are *Bitter*, as well as *Acrid* and *Fetid*.

The *Mucilaginous* are also *Fetid*, as in *Atriplex olida*. That there is but a Difference in degree betwixt *Aromatick*, and *Fetid* Plants, appears by many Instances; as *Galeopsis* smells *Fetid* at first handling, afterwards *Aromatick*. The Flowers of *Valerian* are very strong, and offensive at first getting; after a little drying, they are *Aromatick*: So in the Preparations of *Musk*

and *Civet*, if in a great quantity, or while fresh, they stink; afterwards, in a small quantity, they are more grateful: So the Leaves of *Coriander* stink; but the Seed is *Aromatick*. *Elder-Leaves* are *Fetid*, yet the Flowers are very Fragrant; so are the Flowers of *Saponaria*, though the Leaves resemble *Elder*. The Blossoms of most *Trees* are Fragrant, though the Leaves smell Crude.

From the afore-mention'd Instances,

Fetids are { 1. *Bitter*.
2. *Acrid*.
3. *Mucilaginous*, which are
(generally *Narcoticks*).

From the afore-mention'd it may be infer'd, that *Fetids* inwardly are of a very hot Nature, discussing *Tumors* outwardly, and opening the *Pores*. Inwardly, *Fetids*, by their Volatile Parts, do pierce the Channels of the *Nerves*, mend the Crudity of their Nervous Juyce; and by their *Fætor*, they excite a different Motion from that in *Hysterick Fits*, and in *Convulsions*; and do remove the Cause of that tumultuous Motion in the Spirits, by correcting Acidities, and Stagnation in the *Succus Nervosus*, which is disposed to them, as all other Glandulous Liquors be.

Narcoticks

Narcoticks have all of them an heavy offensive *Smell*, like *Poppies*, or *Solanum*; or have a sweet heady *Smell*, like *Roots of Bears-Ears*.

Milky-Narcoticks taste Mucilaginous, Bitter, and Acrid; as *Poppies*, and *Lettice*: The Milky Juyce is an Argument of an Oyl, and the Acrid of a Volatile Salt adjoined. *Opium* is a Bitter-Acrid, has a Resin, and Gum inflammable: Though it's easily extracted by the Spirit of Wine, yet the Bitterness and Acrid, in which its Virtue is founded, is most corrected by Spirit of Vinegar, Juyce of Lemons, Juyce of Quinces, or any other Acid, as well as by drying it, and evaporating some Part of the *Narcotick Fume*.

I.

The Second Class may be of Bitterish, Sub-acrid, Mucilaginous *Narcoticks*; as *Solanum Lethale*, *Bacciferum*, *Stramonium*, *Cynoglossum*: Besides the Pungency, *Solanum Lignosum* has a Bitterness: The Roots of *Cynogloss* boy'd, smell like Spirit of *Harts-Horn*.

II.

Fresh *Tabaco* smells *Narcotick* about the Flowers, and is Bitter, Mucilaginous, and Acrid: It much resembles *Henbane* by its Figure, Oyl and Clamminess to the Touch;

but by its Bitterness and Pungency, *Solanum Lignosum*.

- III. The Third *Class* of *Opiates*, is Sweetish, Acrid, and Fetid, differing from *Poppy* smell, as *Cicutaria*, *Napellus*. The Roots of *Henbane* are very sweet.

These produce Giddiness, with a *stupor*; and their best *Antidote* are *Acids*, as *Vinegar*.

- IV. The Fourth *Class* has a Bitterish Acrid Taste, as *Cowslips*; and these have also a Fragrancy very heady, being of a low degree amongst *Opiates*: The Roots of *Cowslips* are very Acrid and Bitterish.

By the afore-mentioned Instances it appears, that *Opiates* have very hot *Effluvi-ums*, which offend the *Smell*. By the same, *Opiates* inwardly produce *Sweat* in so small a quantity as one or two grains; and are very *Fetid* by their Oily Acrid Salt, which runs through all the *Classes* of *Opiates*. The Bitterness and Sweetness in some *Opiates*, no way conduce to encrease their *Soporifick* quality, but are different in many *Opiates*.

Narcoticks taken inwardly, immediately affect the *Nerves* in the *Stomach*, and produce an heaviness there; which I have been
sensible

Insensible of, in tasting the *Solanum*, and *Poppies*; and they cannot pass a Digestion and Separation, nor by a circulation arrive at the *Brain*, so soon as their effects are produced therein: Therefore *Narcotick* Fumes must pass through the Pores of the *Nerves*, and begin to fix the Spirits in the *Membranes* and *Nerves* of the Stomach; by which a *stupor* is communicated to the rest. Something of the *Opiates* passes a Digestion, and afterwards a Circulation through the Blood; where it makes no alteration by its *Narcotick* quality; but being *Bitter* and *Acrid*, it produces a *Diaphoresis*, as others of that *Taste* do. In the *Nerves* these *Narcotick* Fumes weaken the brisk expansion of the Spirits, (which causes waking) and their too great Agitation, (which causes pain) and likewise stops their Tumultuous motion in Convulsions, and the violent motion of the Heart and Pulse, as well as any Flux of Humors whatsoever, by abating the violent contractions of the irritated *Fibres*. Humors that are *Acid* are corrected by the *Acrid Taste* and *Bitterness*; but Cholera can no other ways be helped, but by abating the *Acid* combined with it, and making it corrosive, as well as by stopping the motion, and evacuation of it. From the Symptoms allayed by *Narcoticks*, I argue, That they

work not as *Oyls* and *Volatile Salts*, though they have them; for they rather produce an expansion, agitation, and tumult in the *Spirits*: And I also conjecture, that the *Narcotick* Faculty is best deducible from such a combination of the *Volatile Oyl* and *Salt*, with a *Mucilage*, as to gain thereby a particular Figure, Motion, or Texture; by reason of which, it weakens the motion of the *Spirits*, and in too great a quantity destroys their fluidity.

Burnt *Alum* mixt with *Gun-Powder*, destroys its Elastick force, and weakens the burst of a *Gun*. *Water* loses its fluidity by the small Particles of Cold: And *Mercury* is made Solid, by the Fumes of *Lead*. Nothing can be more easily fixt, by divers additions of other things, though in it self it has a greater Agitation of parts than other fluids, which being stopt in their internal motion, become Solids; and if *Opiates* do weaken or deprive the Nervous Juyce of its Internal Agitation, from thence all their *Phænomena* may be explain'd.

All *Narcoticks* have offensive *Smells*, by which we are taught by Nature to avoid them; and this Antipathy can proceed from nothing, but the disagreeable Texture and Motion of the *Narcotick* Fumes to our
Spirits :

Spirits: *Opiates* cause not Sleep, unless in great quantity, in Consumptive Bodies; for in them, a little quantity troubles the Head, and disturbs the Spirits with Giddiness, because their Spirits are very hot and fiery, and their motion, for want of a ferose Vehicle, very violent; but it seems not probable, as some conjecture, that one grain of *Opium* should force so much *Serum* to flow to the glandules of the Brain, as to fill them, and produce Sleep, by too much diluting the Spirits: Whereas we frequently drink a full Gallon of Water, or other Liquors, which supply a greater quantity of *Serum*, without causing Sleep. *Opiates* by their sharp Acrid Salt stimulate, as Venereals; and by their Bitter Sliminess and Acrimony, they purge.

A slimy *Mucilage* attends *Opiates*, which outwardly has a good effect to temper Heat in Inflammations; whilst the Effluvi-ums that are *Narcotick*, abate the Agitation of Spirits.

By their *Mucilage*; *Opiates* may repel, and also inwardly given, by the same they allay sharpness of Coughs, and corrosive Salts; whilst their *Narcotick* Fumes fix the motion of Humors, by robbing the Spirits of their Activity; by their *Bitter-Acrid* they discuss; and by their *Mucilages* mollifie Tumors;

Tumors; as inwardly, their *Bitter-Acid* corrects the *Acid*; the *Mucilage* tempers the *Choler*; and for this end the *Poppy-Syrups* and *Waters*, are the best; having more *Mucilage* than *Acrid* or *Bitter*. But *Opium* more *Bitter* and *Acrid*, than *Mucilage*; wherefore it is more convenient in *Acid* Humors.

C H A P. IX.

Of Volatile Salts, and the Tastes and Vertues de- pending on them.

IN many *Plants*, there is a *Volatile Salt*, discernable by the *Acrid Pungency*, produced on the *Tongue*; as in *Aron-Roots*. That this *Pungency* is a *Volatile Salt*, though it has no *Saltish Taste*, appears by the following Experiment. I distilled some *Mustard-seed* in a Retort, which afforded both *Oyl* and *Spirit*; which being rectified, turned *Syrup of Violets* green; though this *Salt*, in its natural state, will not so readily turn *Syrup of Violets*, as *Animal Salts*

Salts do. The Infusion of *Aron-Roots* in Water, did a little green the Syrup of *Violets*, after some time. Spirit of *Scurvy-Grafs*, or *Aqua Raphani compofita*, would not turn Syrup of *Violets*; nor *Horse-Radish-Roots*, infused in Water; tho' the leaves bottled with Water, turned the Syrup after some time.

Juyce of *Aron-Roots* would not turn it; the *Leek-Roots* sliced into Water, mixt with Syrup of *Violets*, turned it after a long time.

The mixture of other Principles with the *Salt*, hinder its greenning of the Syrup of *Violets*: So a Decoction of *Harts-Horn* for the same reason, will not do what the Spirit does in turning the Colour. It's well known that *Vinegar*, and other *Acids*, as *Lemmon*, *Citron*, *Sorrel*, do best correct the Pungent Acrimony of the Vegetable *Salts*; and therefore *Vinegar* is used in *Sallets*; *Oyl* is used for the securing of the *Stomach* from their corrosive Acrimony: Yet the *Acrid Salt* of Vegetables will not ferment with *Acids*, as the Animal *Salts* do. Juyce of *Aron-Roots*, and Spirit of *Scurvy-Grafs*, will not ferment with *Oyl* of *Vitriol*.

These different *Classes*, I have observed in the Volatile *Salts* of *Plants*.

The

I The *Watry-Acid* having a *pungent Smell*, like *Mustard* or *Scurvy-Grass*, and the *Cresses*: These have a tolerable Pungency, and but a little Oyl with their pungent Salt. The Vertue of these *Cress-tasted Plants*, is first from their *Salts*, which excite Appetite, and volatilize the *Acid Ferment* in the *Stomach*, and therefore are *Stomachicks*: In the Blood they amend the coagulating *Acids*, open Obstructions in the *Spleen* and *Brain*, and all the *Glandules*; and therefore are *Antiscorbutick*, *Splenetick*, *Diuretick*, and *Sudorifick*; outwardly they discuss, and have the Virtues of *Volatile Salts*, in *Pains*, and *Scald-Heads*, and *Scorbutick Spots*.

By the Watry crude Parts adjoyned, they temper their own Acrimony, and make it more agreeable to hot Bloods; as in *Brooklime*. I distilled *Colewort-Roots*, which tasted like *Horse-Radish*; and had an *Acid* mixt with Pungency, which would not turn Syrup of *Violets*; this distillation was in Sand, in a glass Retort. There are many degrees of Pungency in this *Class*; so that choice may be made for particular Constitutions.

~~There is a Bitterness~~ in many of this *Class*, which helps the Operation of the *Acid*: if the *Acid* prevails, they belong to

to this *Class*; if the *Bitter*, they are referable to the *Bitters* with Acrimony.

The second *Class* of Volatile Salts, is in rank *Tastes*, and smells like *Garlick*, and *Onyons*, whose *Smells* are rank *Fetid*, and their *Tastes* very pungent Hot. From *Horse-Radish* Leaves, bottled up with Water two Months; and from their smelling like *Garlick*, as well as from their pungent *Taste*, and quick flying up the *Nose* and *Eyes*, like *Salt-Ammoniack*, I conclude, that the *Cepaceous* kind, would very properly constitute a second degree of Volatile Salts, and a much stronger than the former. They correct *Acids*, and *Phlegm* in the *Stomach*; and excite Appetite by their Pungency: they attenuate the *Phlegm* in the *Lungs*, and open Obstructions there, by their Volatile Salt; and therefore are good *Pectorals* and *Stomachicks*: They alter the *Blood*, as Volatile Salts; and are good against *Infection*, and the *Scurvy*; and as *Diureticks*, by their Salts they are good for the *Dropsie*: outwardly they discuss more than the former *Class*; and their Mucilaginous Roots are emollient, and ripen *Apoptumes*; and by their Salt they draw forcibly, and discuss and attenuate. *Thlaspi* tastes like *Horse-Radish*, and smells like *Garlick*.
The

II

III.

The third, and highest degree of Vegetable *Acrid-Salt*, is in the *Exulcerators*, *Vesicatories*, or *Corrosive Tastes*: These have an *Acrimony* that destroys the Organ of *Tasting*; as among Animals a fierce Volatile *Salt* is in *Cantharides*, which is *Vesicatory*: And strong Spirit of *Sal-Ammoniack* blisters the *Tongue*. So in the first *Class* of *Exulcerators*, there is a very *Acrid Taste*, and quick pungent *Scent*, depending on the *Salt* only; the *Plant* being Watry, having no strong *Oily Smell*: and these may be called *Watry Exulcerators*; as the *Ranunculus*, *Anemone*, *Aron*, *Dragons*, *Ranunculus flammeus*: *Vesicatories* pierce the *Pores*, and by their pungent *Acrimony* irritate the *Glandules* in the *Cutis*, to send forth their *Serum*, and separate the *Cuticula* into a *Blister*.

The *Corrosives* have a higher degree of *Acrimony*; they pierce the *Cuticula* and *Cutis*, with *Pain*; they alter and tear their *Pores*, drive out their *Serum*, and thereby induce an *Ulcer*, and corrosion of the *Cutis*.

I. Note, That the first *Class* is *Vesicatory*, or *Corrosive Watry*.

II. The second *Class* is where the Volatile
Salt

Salt is mixt with a hot fiery *Oyl*; as in *Euphorbium*, *Ivy-Gum*; and these *Plants* have a strong *Smell*, with an *Acrid Taste*.

The *Milky* or *Resinous Exulcerators*, have an *Oyl* more fixt, joyned to an *Acid-Acrid Salt*; as *Tithymalus*, and *Esula*; and these smell *Acid*, rather than of any hot Scent. *Mezereon*, and *Laureola*, have a faint *Lily-Smell*; in these the *Oyl* is not much conducing to any *Corrosiveness*: But that depends on the *Volatile Salt* alone, made more *Volatile* by addition of some *Oyl*.

The third *Class* of *Corrosives*, is in the *Acrid-Acid*; as *Rosa Solis*, which is accounted *Vesicatory*, but very mild, the *Acid* being contrary to *Volatility*. III

Acids mixt with *Minerals*, as in *Cry-stals* of *Silver*, and *Aqua Regia*, become *Corrosive*; and divers other *Minerals*, which are not in themselves very sharp, by their mixture, become *Corrosive*; as appears by *Sublimate*. *Lime* has a mixed *Salt*. This sort of *Corrosiveness* happens in the fixt *Salt* of some *Plants*; as in the *Salt* of *Ash-Tree*.

Acids become *Corrosive* in the *Fire*, by their separation from *Earthy Parts*; as in *Salt-Peter Spirit*; *Oyl* of *Vitriol*, *Aqua Fortis*,

Fortis, and Spirit of *Vinegar*; but this way I know no *Plants Corrosive*: The *Acid* of *Plants* cannot be so attenuated by Digestion in the *Plant*, as that of Minerals is in the *Fire*.

Fixt *Salts* in *Soap-Ashes*, by being united in a solid form, act all together, and so corrode. So a *Vesicatory* is made out of *Ashes* of *Ash-Tree*; but this way cannot happen in *Plants*, because there is naturally no fixt *Salt* in them, but what is made by *Fire*.

Oyls of themselves cannot be *Corrosive*; they pierce by their tenuity, but cannot corrode; their Pungency is from the *Salt* only, though their Heat and *Smell* is from the *Oyl*; but generally the *Corrosives* have no *Smell*, or inconsiderable; where it would not happen, if the *Oyl* were *Corrosive*: whence I conclude, that such a *Taste* depends on the Volatile *Salt* diluted with *Water*, or sharpened by the addition of *Oyl*, though crude, as in *Tithymalus*; but especially by a Volatile *Oyl*, as in *Euphorbium*.

CHAP. X.

Of Sweet Tastes.

THIS Taste depends on an equal Mixture of the Principles of *Plants*: The *Acerb, Austere, Woody Fruits* become Sweet, Fragrant, and Spirituous, when ripen'd by the Heat of the *Sun*, like a Chymical Digestion, that separates the Principles, and produces a looser Mixture; and the *Sweet Fruits*, by Distillation, afford a *Spirit*; so that, an *Acid* from the Crudity, and Spirituous Oyl and Salt from the Ripeness, are evident in *Sweet Tastes*. A *Mucilage* appears in *Liquorish*, and an Oily Smell in the Flowers of the *Pea-Taste*. *Sugar* has both Oyl and *Acid*: So that from different *Sweet Tastes*, you will find all the Principles of *Plants* to be latent in a *Sweet Taste*; which will appear from the Classes of *Sweet Tastes*:

1. *Sweet-Watry-Crude*, in *Grass* and *Corn*.
2. *Sweet-Aromaticks*, in *Carrots* and *Parsneps*.

E

3. *Sweet-*

3. *Sweet-Acid*, in *Rapunculus*.
4. *Sweet-Mucilaginous*, in *Figs*; or *Oleose*, as in *Nuts*.
5. *Sweet-Subacid*, in *Strawberries* and *Grapes*.
6. *Bitter-Sweet*, in *Aloes*.
7. The *Pea-Taste*, in *Fitches*, &c.

Pea-Tastes are either {
 1. *Sweet and Rough*,
 2. *Sweet and Bitterish*, or
 3. *Sweet*, and compounded with a *Bitter-Acid*, and sometimes a *Mucilage*.

The *Watry-Crude* are Cooling, in distill'd Waters and Decoctions.

The *Sweet-Aromatics* are Nourishing, and very grateful to the Stomach.

Sweet-Acid are also Esculent and Diuretick; by their *Acrimony* and *Sweetness* they are Pectoral, lenifying sharp Rheums, and opening the Breast. *Sweet-Mucilaginous* are both Pectorals and Diureticks, defending the Membranes both by their *Sweetness* and *Mucilage*, and making them more slippery for Phlegm and Gravel, as well as allaying the Sharpness of Saline Humors by the *Mucilage*.

Sweet-Subacid are cooling Cordials.

Bitter-Sweets are Nauseous Purgers.

Pea-

Pea-Tastes are of a crude Juyce, hindring the Fermentation of the Blood, dulling its *Salts*; especially if a *Mucilage* be adjoyned.

If *Astringency*, they bind also.

If *Bitter*, or *Acrid*, or Both, they are opening, and outwardly discussing; as in *Melilot*.

CHAP. XI.

Concerning the Smells of Vegetables, their Differences, and the Vertues depending upon them.

THE Smells of Plants are either Cool, Temperate, or Hot.

§. I. Of Cool Smells in Plants.

Earthy, which smell of *Earth*; with which is joyn'd a *Mucilage*, as in *Mushromes*; Or else they are dry *Plants*, as *Mosses*. And this *Smell* of *Earth* must needs argue a *Crude Plant*.

E 1

Sorrel-

Sorrel-Smells, or *Acid*, or *Sowre* : These shew the *Acid* to abound in a *Plant*, and the Vertues depending thereon ; as in *Sorrel*, &c.

III. A *Crude* or *Grassy-Smell*, resulting from an indigested Mixture of *Acid*, and *Earth*, and *Water* ; as in *Plantane*. A *Crude Smell* indicates a cooling Quality, fit for inflamed Blood, and over-fermented Humors : And outwardly these *Plants* are repelling, and of a cooling Quality.

In the *Plants* which have the *Smells* above-mentioned, there is not so great a Digestion of their Juyce, as to attenuate it, and rarefie it, so far as to emit brisk Particles to affect the Senses, like *Oyl* or *Volatile Salts* of *Plants*.

§. II. Of Temperate Smells.

Temperate Smells of *Plants* are mixt of Hot and Cold, being Mellowy-Sweet ; such as is in Ripe *Fruits*, as in *Apples*, &c.

This *Smell* arises from an higher Digestion of the Crude Juyce in *Fruits*, by the Heat of the *Sun* ; which produces that equal Mixture of Principles, which is most agreeable to the Body of *Animals*, for their Food ; and by this *Smell*, and the *Aromatick*,

romatick, they choose it naturally. Most *Fruits* may, by a farther Fermentation, be prepar'd to yield an inflammable Spirit; and therefore, *Fruits* fermented in the Stomach, yield a brisk Spirit to the Blood.

And by their *Acid*, (which appears to the *Taste* and *Smell* after Fermentation) they cool the Blood and Choler, and excite Appetite. A grateful *Acid* may be smelt in the Stomachs of *Birds*, which feed on *Hips*; from which I have made a very grateful *Spirit*, by Fermentation. In Surfeits of *Fruits*, the Fermentation of them is carried on to a Putrefaction; which happens frequently, when *Fruit* is eaten by any Person when he is very hot; or else the *Fruit* lies in the Stomach crude, and unfermented, very Acid, and Griping, as it happens to cold Stomachs.

§. III. Of Hot Smells.

Hot Smells are either Agreeable, or Offensive.

Agreeable Hot Smells are

L

1. *Terèbinthines*; in which the Oyl of *Plants* is more rarefy'd, than in any other of the former *Smells*; but yet it is mixt

E 3

with,

with, and fixt by an *Acid*: And this *Smell* indicates a *Vulnerary Quality*, by resembling the *Smell* of *Turpentine*: A *Balsamick Smell* depends on a State of the *Oyl* of *Plants*, betwixt a *Turpentine* and *Aromatick Smell*; as in *Botrys*, *Ladanum segetum*, &c.

2. *Aromatics*; in which the *Oyl* is less fixt than in the former, there being less *Acid* mixt with it, (which appears in the *Aromatick Astringent* :) In *Aromatics*, there is a *Bitterness*, or *Sweetness*, with an *Acrimony*. All *Aromatics* are *Cordial*.

3. *Fragrant Smells*; in which the Sense of *Smelling* is highly pleas'd, by the *Odor* depending on the highest rarefy'd *Oyl* of *Plants*; and therefore very little affects the *Taste*, the *Oyl* not being fixt in the *Juyce* of the *Plant* so much as in the former, by an *Acid*, as in *Jassemín-Flowers*, *Orange-Flowers*, &c.

These *Plants* afford the best *Cordial-Water*; and are only an higher Degree of *Aromatics*.

II. *Hot Offensive Smells* are

1. A *Quick Pungent Smell*; which is in *Horse-Radish*, or *Mustard-Seed*, or *Ranunculus*: These *Plants* have a *Volatile Salt*,
and

and the Vertues depending on it. The proper *Smell* of *Vegetable Salts*, is a quick Pungency. *Animal Salts* have also a Smoaky or Urinous *Smell*, by which they differ.

2. *Fetid Smells*; which arise from a *Salt* and *Oyl* very Volatile; and therefore have outwardly a most discussive Quality, and inwardly an *Anti-Hysterick* Quality.

1. *Fetid*, like *Elder*; and those *Plants* have the same Vertue; as *Scrophularia*.
2. *Rank*, like *Garlick*, as *Onions* and *Leeks*; and these have the same Vertue as *Garlick*.
3. A *Rancid Oily Smell*, which many of the *Pea-Taste* have; as *Goss-Flowers*, &c. and these are fit for *Oyls*, and *Oyntments*.
4. *Narcotick Smells*, like *Poppy*; and all these *Plants* have an *Opiate* Faculty.
5. *Nauseous Smells*, such as is in *Aron-Pouches*; which *Smell* is most Abominable.

In *Bryony-Berries* the *Nauseous Smell* intimates a Vomitory Faculty.

Those *Smells* which do resemble other *Plants*, have the same Vertue; but not always, when they resemble other Things.

Rocket,
Scurvy-Grass,
Horse-Radish,
Water-Cresses, &c. } have a *Mustard-Seed*
Smell.

St. John's-Wort,
Herb-Robert,
Firr,
Pine,
Juniper, &c. } have a *Turpentine-*
Smell.

Germander,
Wood-Sage, } smell like *Hopps.*

Scordium, > like *Garlick.*

Leaves of Primroses, } smell like *Marmalet*
of Quinces.

Pansies,
Milkwort, } smell like *Orange-*
Flowers.

Silique-se-Willow-herb, > like *Codlings.*

Ballote,
Ironwort,
Galeopsis,
Chickweed, with
Ivy-Leaves,
Ground-Ivy-Leaves,
Clowns-All-heal,
Cardiaca, &c. } have all of them a
dead Nettle-Smell.

Hare-

Hare-Bells,
Daffadills,
Dog-stones,
Marsh-Marygolds,
Violets, &c.

} smell all like *Lily-Flowers.*

Solanum Bacciferum,
Lignosum,
Lethale,
Circæa,
Tobaco,
Papaver album,
Papaver rhæas,
Mirabile Peruvian.
Lactuca Sylvest.
Opium,
Argemone,
Stramonium,

} have all a *Poppy,* or heavy, strong, *Fetid, Opiate Smell.*

Primroses,
Bears-Ears,
Love-Apples,

} have a strong, fragrant, heady *Smell.*

Anemone,
Onyons rub'd, and put to the Nose.

} affect the Eyes like *Sal-Ammoniack.*

Calamint,
Dictamnus,
Cat-mint,

} like *Penny-Royal.*

Gromwell

Gromwell and
Hounds-tongues,

} smell like the *Excrements* of *Mice*.

Vetches,
Trefoile,
Rest-harrow, &c.

} have a *Pea-Taste* and
Smell.

Ulmaria,
Fresh Peony-Roots,
Filipendula, &c.

} smell like *Walnut-Peels*.

Mugwort,
Tarrow,
Sneezwort,
Southernwood,
Lavender-Cotten, &c.

} smell like *Wormwood*.

From the 'fore-mention'd Instances, it appears,

First, How much the Vertues of *Plants* may be known, and how easily distinguish't by their *Smell*: Which will appear more clearly, in my New Method of *Plants*.

Secondly, I may inferr, That the *Smell* of Hot *Plants* depends on their *Oyl*, though the Volatile *Salt* gives it a quick Pungency.

Thirdly,

Thirdly, That the *Acid* and *Earthy* Parts, are smelt as well as the *Volatile*.

Fourthly, That *Fetids*, and *Aromaticks*, differ only in Degree; the *Fetids* being strongest; both of them being produced by an Oylly *Volatile Salt*, which separates the Oyl from the fixing *Acid*.

In the Sense of *Feeling*, (by which the Impressions on the Tongue are explain'd) Pleasure arises, à *blando & molli affrictu*, by which the Spirits are drawn into the Part. In Pain there is *impulsus fibras convellens & corrugans*, by which the Spirits are distracted and dissipated: So in *Aromaticks*, the *Papillæ* are gratefully and gently rubbed; in *Fetid Tastes*, more violently, and the Sense of *Smelling* is also offended by a violent Impression, but pleas'd with a gentler.

CHAP. XII.

Of Occult Qualities.

THat there are many Textures in *Plants*, which we shall never be able to describe; and some Internal Agitations of Particles, which we can never explain, is undeniably true; though we observe the *Tastes* and *Smells* produced by each particular Texture; and the *Qualities* of Hot and Cold, depending on the motion of Particles. So in *Narcoticks* we taste *Mucilage* and *Acrimony*, and smell a *Fætor*; which sensible *Qualities* we find in *Narcoticks*; though we know not their particular Texture and Motion, by which these particular Compositions of *Tastes* act, nor the manner by which they stupefie.

Purgers have their particular Composition of *Tastes*, resulting from a particular Texture, on which their Irritation depends; their Textures being not describable other ways, than by their several *Tastes* depending on them, and the Nature of the Principles, which produce their several *Tastes*; and are the Ingredients constituting that Particular

cular sort of Texture. Seeing therefore, that the particular Compound *Tastes* of each *Plant*, are the Effects of particular Textures; where we find the same Combinations of *Tastes*, the same Textures must needs be inferr'd. Therefore, we know also the Textures of *Plants*, by their several *Tastes* and *Principles*, though not directly, and immediately by our Senses.

The Figures of minute Particles, are too small to be visible; and the manner of their Internal Motion doth not affect our Feeling, or other Senses; and therefore the Textures of all *Plants*, and all other Bodies, will ever be *Occult Qualities* as well as the *Effluviiums* of all Bodies, not affecting our Senses.

The same *Occult Qualities* are in the most known and evident things; as *Fire*, whose Heat we feel, but cannot describe the Figure and Motion of its Particles; neither can we describe the Texture of *Mucilages*, *Bitters* or *Turpentine*s, &c. yet we can distinguish the *Tastes* and *Smells*, and *Principles*, which constitute each particular Texture: Therefore, I conclude, that the Texture and insensible *Effluviiums*, are alike obscure in all Bodies, as well as *Vegetables*; and nothing is more *Occult* in one *Vegetable*, than in another; but because we know

know not the Nature of *Animals*, on which *Plants* produce their Effects; we cannot so clearly give an Account of the Operation of some *Tastes* and *Smells*, as of others. So in *Opium*, we cannot explain the manner of its Stupefaction, because we know not the Nature of *Animal Spirits*, on which it acts; yet we perceive the *Gumminess*, the *Acrimony*, the *Bitterness*, and *Fetidness*, by which it acts; and by which its manner of stupefying will be explain'd, when the Nature and Motion of *Animal Spirits* is sufficiently understood.

Not only the Nature of Spirits, but also the Nature of some Humors in the Body, are yet unknown; and the Use of some Parts too; as the *Spleen*, and divers *Glandules*, which may make the manner of the Operation of many Medicines less evident to us: For since the discovery of the *Muscular Fabrick*, and use of the Heart, by Dr. *Lower*; and the Circulation of the *Blood*, by *Harvey*; and the Insertion of *Nerves* into the *Muscles* of the *Heart*, by Dr. *Willis*: a more rational and evident Account may be given of the Operation of *Cordials*, by their particular *Tastes* and *Smells*; as in *Aromaticks*, which abound with a Volatile Oyl and Salt; whereby they quicken the Circulation of the *Blood*, and excite a brisker Motion

Motion in the Animal Spirits, by which the *Muscles* of the *Heart* are moved.

It is not only the unknown Nature of *Humors*, and the undiscover'd Use of some Parts of the Body, which makes the manner of the Operations of some Medicines obscure; but also the want of examining the Nature of the Medicine it self, and the particular Compositions of *Tastes* which are in it.

I hope, I may give a further light to the Ingenious Enquirers into the manner of the Operations of Vegetables, by observing these two things:

That *Plants* have Compound *Tastes*, by which they act; as *Rubarb* purgeth by a *Bitter, Slimy, Sub-acrid Astringent Taste*. *St. John's wort* is a *Vulnerary*, by being *Bitterish, Astringent*, and having a *Turpentine Smell*. *Liver-wort* is *Hepatick and Diuretick*, by being *Bitterish, Sub-acrid, Mucilaginous*, and having a *Turpentine Smell*, (as in the Second part of the Book, you will find all the *Plants* after this manner described.) And therefore I infer, That though each particular *Taste* hath a *Vertue*, as considered by it self; yet divers *Tastes* being Compounded in one *Plant*, every *Plant* hath a particular Effect depending on the Action

Action of all the Qualities together ; from all which the Vertue of a *Plant* is deduced, and not from one only *Taste* : But we shall better apprehend the Effects of *Vegetables* produced on *Animals*, if we consider

- II. That every *Animal* contains divers Humors, separated by particular Parts into distinct Vessels ; and that these Humors have different *Tastes*, *Natures*, *Digestions*, and particular Motions given them by the Mechanical Structure of an Animal Body ; and that the Organical Parts have such an agreeable contrivance, as by the acting on One Part, the Whole may be disturbed and variously moved ; which appears in *Smells* that are offensive to *Hysterick* Persons.

CHAP. XIII.

Of Specificks.

WHAT Notion of *Specificks*, I think most rational, differs much from what is usually describ'd by Authors, by whom Medicines are call'd *Specificks*; because they act principally upon the account of some Property or peculiar Virtue, which is unknown, and not by any manifest Qualities of *Bitter*, *Arid*, *Acid*, &c. But I will not dispute those Author's Notions, but propose my own to the Ingenious and Candid, to be examin'd by them. I therefore define a *Specifick* Medicine to have a particular *Taste*, or Composition of *Tastes* or *Smells*, whereby it acts on some Humors of an Animal, more peculiarly and effectually than other Medicines.

There are three sorts of *Specificks*; First, *Specifick Purgers*. Secondly, *Specifick Alterers*, which are of a contrary *Taste* to the Humors corrected. Thirdly, *Specifick Alterers*, which are of the same Nature,
F and

and of the same *Taste*, as the Humors they correct.

First, Specifick Purgers: *Purgers* are called *Specifick*, because they evacuate a particular Humor; and if they be considered as *Alterers*, they have the same *Taste* as the Humors they Purge; by which *Taste* they dispose that Humor to a separation from the Blood: And *Purgers* are also most peculiarly suited to the nature of the Humor they Purge, by the different degree of Acrimony, which irritates. So *Cholagogues*, as *Dock-Roots*, and *Rubarb*, are Bitter and Slimy, like *Choler*; and also *Sub-acrid*, which is the lowest Degree of Irritation. *Phlegmagogues* are also *Cholagogues*; as *Aloes*, and *Agarick*, which have a *Bitter-sweet*, like *Choler*; and have a *Mucilage* or *Gumminess*, like *Phlegm*; and also a greater Degree of Acrimony than the former *Cholagogues*; which seems necessary for *Phlegmatick* Humors, the *Choler* being more fluid. *Hydrogogues* are also *Phlegmagogues*; for *Phlegm* is but an inspissate *Glandulous Lympha*; and the *Resinous Purgers* have the *Gumminess* of *Phlegm*, and a greater Degree of Acrimony to mix with the *Serum* of the *Blood*, and also to stimulate the *Glandules* of the *Guts* and *Stomach*: This strong Acrimony
in

in *Resins*, resembles the Saltness in the *Blood*, it being also a *Salt*. *Melanagogues* differ not from *Phlegmagogues*, and the mild *Hydrogogues*; as *Sena*, which is *Bitterish*, *Slimy*, *Sub-acrid*.

Note, That black *Hellebore* is very *Acrid*, by which it is of a contrary *Taste* to *Melancholick* Humors; and corrects *Acids*, as well as purges *Phlegm* and *Choler*.

Secondly, *Specificks*, which are of a contrary *Taste* to the quality of the Humors, to be corrected. So *Acid-Medicines* are contrary to *Bitter Choler*, and *Acrid Salts*, and destroy their *Tastes*. *Earth-Salt* and *Bitter Medicines*, are contrary to *Acidity* and *Acerbity* in the *Lympha*, *Serum*, and *Chyle*: as also *Sulphurs* and *Oyls* are. *Watry Mucilages*, and *Crude Juices*, are contrary to the inspissate *Serum* of the *Blood*, by diluting it. *Astringents* are contrary to the *Laxity* of the *Fibres*, and *Oily Medicines* are contrary to their roughness and dryness. These *Contrarieties of Qualities*, and also the *Specifick Purgers*, are mentioned in the *Specifick Class*, to which I refer the *Reader*.

Thirdly, *Specifick Alterers* (which are appropriated, and call'd *Friendly* to some part) by being of the same *Taste* and *Nature*,

ture, as the Humors that are prepared and separated by that particular Part; the Nature of which will more plainly appear by the following Comparifon, betwixt the *Tastes* of Animal Humors, and the *Tastes* of those Medicines which respect particular Parts.

The Natural *Taste* of *Choler*, is *Sweet*, *Bitter*, *Slimy*; in Birds *Acrid*: from this *Taste* of *Choler*, it is natural for us to argue, That a Medicine of the same *Taste*, will act like *Choler* in the Body, and supply the defect of it when wanting, and restore it to its natural *Taste* and state, when weakened, dull'd, or coagulated by *Acids*; or wants a perfect Digestion and Separation from the *Blood*: Therefore, by reason of a *Bitter*, *Slimy*, *Sub-acrid Taste*, in *Choler*; *Gentian-Root*, which hath that *Taste*, is accounted an *Hepatick*; and also *Carduus*, with all others of the same *Taste*; upon the account of a *Bitter Sub-acrid* in *Choler*, *Celandine* and *Turmerick-Roots* are *Hepaticks* also. Upon the account of *Bitterness* only, all *Bitters* are *Hepatick*, as *Succory*. Upon the account of *Sub-acrid* only in *Choler*, all *Acrids* may be accounted *Hepaticks*, on the account that *Choler* hath a sweet *Oylinefs* in the *Taste*, and that *Sweets* become easily *Bitter*. Therefore all sweet
Spices

Spices and *Aromatics*, are *Hepatick*: *Choler* is also *Fetid*; and therefore the *Fetid Gums*, which are *Bitter*, *Acrid*, and *Fetid*, are good *Hepaticks*: And all *Plants* abounding with an *Oily Pungency*, and their distill'd *Oyls*, are *Hepatick*, because the same *Principles* are in *Choler*.

Sweat and *Urine* have the same *Salt Taste*; and therefore the same *Salt Medicines* are both *Diuretick* and *Diaphoretick*. This *Salt* in the *Serum* of the *Blood*, is of the nature of *Sal-Ammoniack*; therefore mixt *Salts* are the best *Diureticks* and *Diaphoreticks*. All *Medicines* of a *Salt Taste*, as fixt *Salts*, pure *Volatile Salts*, or *Vegetable Oily Salts*, in *Aromatics*, *Fetids*, and *Acrids*, and many *Salso-Acids*, promote both *Sweat* and *Urine*; and all *Volatile Salts* smell *Urinous*.

Note, That *Testaceous Medicines* become *Diuretick*, by getting a *Salt Taste* in the *Stomach*, by reason of the mixing of its *Acid* with them.

The *Saltiness* of the *Blood* preserves its *Mixture*, and prevents *Putrefaction*; and so do all the *Salts* above-mentioned; and therefore they are *Antifebrifick*, and *Alexipharmliick*.

The *Lympha* of the *Conglobate Glandules*, is also *Salt*, like the *Serum* of the *Blood*;

and therefore in *Arthritick* pains, requires the same Salt Medicines, which move *Sweat* and *Urine*, with a cool Watry Vehicle: for the use of this *Lympha* is not only to mix the *Chyle* and *Blood*, but to dilute both; the defect of which *Lympha* is best supply'd from the Watry *Sub-acrid Plants*.

The *Lympha* of the *Conglomerate Glandules*, is *Watry, Slimy, Sub-acid*; this constitutes the Ferment of the *Stomach*, and is separated into the *primæ viæ*, not only by the *Salival Glandules*, but by these also of the *Stomach, Pancreas*, and *Guts*. This *Lympha* is supply'd by spirituous *Acids*, and *Slimy, Watry Sub-acids*, as *Lemmons, Oranges*, and dulcified Spirit of Salt; these excite Appetite, and help the Fermentation of Meats. So Leaven, which ferments Dough, is *Sub-acid* and *Salt*. *Salt Tastes* are also pleasing to the *Stomach*, because they are *Sub-acids*.

The *Lympha*, which moistens the Cavity of the *Lungs* and *Wind-pipe*, is *Slimy, Sweet*, and *Milky*; in *Hecticks* this is deficient, and is therefore supplied with *Milks*, and Watry Sweet *Mucilages*.

The use of the *Spleen* is yet unknown, but it certainly separates a *Glandulous Humor*, whose *Taste* is probably *Sub-acid*; and therefore many *Astringents*, which are produced

produced from *Acids*, as *Vitriolum Martis*, and the *Fern-Astringents*, help the preparation, and supply the defect of the Splenetick Liquor: All Medicines altering the Depravation of it, must be contrary to *Acids*.

The *Menses* have a particular *Smell*, not unlike Flowers of *Marigolds*, or *Saffron*, which are *Fetids*; and so is *Atriplex Olida*, and therefore esteemed an *Uterine*; and for their agreement in *Smell*, all other *Fetids*, though they have not the same sort of *Fætor*, are accounted *Uterines*; as *Volatile Oyls*, *Salts*, and *Fetid Gums*.

Aromatick Smells are grateful and pleasing to the Spirits, and therefore are used as *Cordials* and *Cephalicks*; we cannot *Taste* the Spirits, though we could meet with the *Succus Nervosus*, because they are the Instruments of *Taste*; but there seems nothing fitter than *Smells* to explain their Natures, which work much on the Spirits, they being subtle and invisible *Effluvia*, like them.

Narcoticks have a *Fetid Smell*, by which they stupefie the Spirits, by stopping their Motion and Elasticity, and the Fluidity of their Glandulous Vehicle.

Amongst *Plants*, those are esteemed fittest for Food, which have a sweet *Taste*;

and such hath been accounted the *Taste* of *Chyle*: Sweet things breeding the greatest quantity of it, and most nourishing; for *Chyle*, like sweet *Tastes*, contains an *Oyl* and *Acidity*, well digested and diluted with *Water*. Therefore, all Medicines of a sweet *Taste* are agreeable in *Taste*, *Temper*, and *Digestion* to Animal Bodies; and all those *Plants*, which are of a lower Digestion than Sweets, are, in respect of the Humors of an Animal, crude and cooling; as *Earthy*, *Watry*, *Acid*, and *Mucilaginous Tastes*; which are therefore used in the too high Fermentation of the Blood. Those *Plants* which have a higher Digestion than Sweet, are also of a higher Digestion than the Natural Temper of Animal Humors, and are therefore *Heating*, *Opening*, *Cordial*, as *Bitter*, *Acrid*, *Aromatick Tastes*; and *Causticks*, which have the highest excess above sweet *Tastes*, and consequently above Animal Humors, are therefore Corrosive and Poysonous to them.

Plants do not only consist of some certain Principles, but they receive also a different Digestion and Fermentation in each *Plant*; which is very manifest in the Fruits of *Plants*; which at the first taste *Acerb*, and afterwards become Sweet and *Sub-acid*: and in those Seeds, which whilst unripe taste

taste Austere, but afterwards become Sweet
Oily. This particular Digestion in *Plants*,
may be observed by their several *Tastes*,
and predominant Principles, which pro-
duce them.

C H A P. XIV.

*Of the different Ways of know-
ing the Vertues of Plants;
but most particularly, of the
Natural Method of deduc-
ing them from the several
Modes of Taste, and from
Experiments.*

ALL the Knowledge we have of Na-
ture, is grounded on our *Senses*;
they first inform us of certain
Qualities produc'd by their Objects; into
whose Natures we afterwards enquire, by
varying Experiments about those sensible
Qualities; and also, by examining the Prin-
ciples which produce them.

I have

I have mention'd the Principles on which *Tastes* depend ; and those Vertues which all *Authors* allow them upon the Account of that Dependence.

This Knowledge of the Vertues of *Plants*, by their *Taste*, is much improved by divers Experiments made about particular *Tastes* ; which I will mention ; and also, those Vertues which are known by the Modes of *Tastes*. But I will first take notice of some other more general Hints of the Vertues of *Plants*, we have from other *Senses*. *Nature* seems to have been very much solicitous for our Knowledge of the Vertues of *Plants*, by exposing them to so many of our *Senses*.

By the *Touch* we feel *Mucilages*, and the Gumminess of *Turpentine Plants*, and the Waterishness of all *Juyces*, and the Acrimony of the *Vesicatory*. By the *Eye* we observe the Signatures of *Plants* ; in which *Nature* has given us an Hint of enquiring farther into their Natures, for Remedies in particular Distempers ; and therefore, the Character of some Diseases is fixt on the *Plant* : *Pulmonaria* has the Marks of corrupted *Lungs*, *Scrophularia*, *Chelidonium minus*, and *Fabaria*, have knobbed Roots like the *Piles*. Spots are observ'd in *Aron*,
and

and *Dragon-Leaves*, like those in *Scorbutick* Persons.

Other *Plants* resemble the External Cause of a Distemper; as the Stalks of *Dragons* do the Skin of a *Serpent*; the Roots of *Doronicum*, and the Tops of *Echium*, resemble a *Scorpion*; against whose Venom they are us'd.

Where Distempers have no outward Figure, there the *Plant* bears the Figure of the Part affected. So *Nutmegs*, *Walnuts*, *Poppy-heads*, and *Peony*, have some Resemblance of the Head of *Animals*, and are useful in different Distempers of it.

The *Eye* also observes the Likeness of the Yellow Colour in *Saffron*, *Turmerick*, *Celandine-Roots*, and the Gall of an *Animal*. The Likeness of slimy *Mucilages* to many Glandulous Humors, is obvious; and the Colour and Smell of *Urine* in *Lixiviums*, is manifest.

I have already described the Similitude betwixt the *Tastes* of *Medicines*, and *Animal Humors*; by which the Friendly *Specificks* may be known.

I have also given an Account of the different *Smells* of *Plants*, and the Vertues intimated by them.

I will

I will now consider the different Modes of *Tastes*; from whence we learn what sort of Affections *Plants* will produce in our *Bodies*; and also those which are produc'd externally: For as the *Tongue* is affected by the *Taste*, so are the Parts and Humors of an *Animal*, by the same *Plant*, when us'd for a Medicine. But, besides these Vertues known by the Modes of *Taste*, other Vertues are proved by Experiments; which we could never have inferr'd to have belong'd to a particular *Taste*, by any Modes of it: And therefore, though we know the particular *Tastes* of *Plants*, and the Composition of them; yet we cannot know what Vertues may belong to them by that *Taste*, until we thoroughly have try'd and examin'd the Nature and Effects of each particular *Taste*; and also, what *Tastes* may produce in *Composition*, more than *Simple Tastes*.

Acids taste Cool, Sowre, and Pungent, or Sharp, and a little Rough: From the Coolness on the *Tongue* we inferr, that *Acids* will cool the Blood, Choler, hot Salts, and the Stomach, and Thirst; and that outwardly they will repell and cool Inflammations.

From

From their Pungency we believe them Aperitive, Penetrating, and also cutting Phlegm.

From their Roughness we conclude they may stop Loosnesses and Hæmorrhages, as *Astringents* do, but more weakly.

The Experiments which have further illustrated the Efficacy of *Acids*, are these.

The Coagulation of Milk, Choler, and the *Serum* of the Blood, shews their cooling Vertue more efficaciously.

Acids are contrary to *Volatile Salts*, and combine with them into a Mixt Salt; by which *Acids* are Diuretick.

Acids joyn'd with *Minerals*, produce *Vitriolate Tastes*; and the same Taste is observable in *Scorbutick Spittings* of Blood from the *Gums*: The Blood tastes like *Vitriolum Martis*, as I have often found.

A particular *Acid*, with a *Volatile Salt*, which the Honourable Mr. *Boyle* mentions) produces a cool Effervescence; from whence Shivering may be explain'd.

Acids commonly produce hot Effervescences; from whence flushing Heats may be explain'd, upon the Use of *Vinegar*, in some Persons.

Acids are contrary to *Oyls*, and make a lasting Effervescence with them; as *Oyl of Tur-*

Turpentine, and *Oyl of Vitriol* mixt: From whence we shall hereafter deduce the Natural Heat and Effervescence of the *Blood*, and the Colour of it, and the Separation of the Fat from it.

Acids are contrary to Melancholick Constitutions, because they abound with *Acids*.

They are contrary to *Cephalick* Distempers, because these require Volatile *Salts* to cure them.

They corrode the Teeth, make the Urine sharp, cause all Obstructions; and therefore, there is no pure *Acid* found in any Humors of *Animals*: For the *Acids* are either joyn'd to the *Salts*, or *Oyls of Animals*. Of these I shall say more in the Account of the Original of *Animal* Humors, and their *Tastes*.

To those, many other Experiments may be added out of *Chymical Authors*, to shew many yet-unknown Properties of *Acids*; as their Concurrence in the Production of Volatile and Fixt *Salts*, and the Part they have in *Aurum Fulminans*, and *Gum-Powder*: All which Experiments are applicable to some Alterations made by *Acids* in *Animals*.

Astringents taste Rough, Cool, and contract

tract the Lips; and they have the same Effect on the other Parts.

The Roughness stops Loosnesses, fastens Loose Teeth, heals Wounds, and cicatrizes Ulcers; repels outwardly; and, by contracting the *Fibres*, strengthens them both outwardly and inwardly.

By the same Roughness, and cool *Taste*, the Humors are contracted, thickned, and cooled; and therefore, *Astringents* stop Loosnesses, and Hæmorrhages, as well by the Contraction of fermenting Humors, as by strengthening the *Fibres*.

The other Effects of *Astringents*, may be deduced from this Roughness, though at first they were discover'd by Experiments. So Feavers have been cur'd by *Astringents*, by reason of the Qualities above-mention'd: And because we find that *Galls*, which have a rough *Taste*, will alter the Texture of *Chalybeat* Liquors, we believe by this Effect we may illustrate the Operation of *Stypticks*, in curing of Fevers; which Effect we could not clearly deduce from the contracting *Taste*.

Earthy Tastes are dry and gritty. They affect the *Taste* but little; so that, from thence we cannot learn much of their Virtues, more than to dry and imbibe Humidity,

dity, and thicken the Blood, and outwardly to dry Ulcers.

But by Experiments we learn, that *Earthy Particles* abforbe *Acids*; and both compound either a *Salt* of an Aluminous, Nitrous, or Vitriol *Taste*, or Corrosive *Sulphurs*; as shall hereafter be particularly mention'd.

Watry Tastes are cool, and moisten the Tongue; for which Qualities we use them in Medicines.

Mucilage tastes Smooth, Cool, Slimy, and Watry. It therefore smoothes the Roughness and Dryness of the Throat in *Catarrhs*, abates the Sharpness of Urine, cools and thickens all sharp Humors, and outwardly allays Heat, Roughness, and all Inflammations in any Part, and the hot Rheums in the *Eyes*.

Oyl differs from *Mucilage*, by being more hot; and therefore digesting, and Anodyne, by the gentle Heat outwardly.

Oyl lenifies sharp Humors, and inwardly defends the *Gutts* by a Sliminess, from the Acrimony of *Poysons*.

The Sharpness to the *Eyes*, the Nauseousness to the *Stomach*, the not Mixing
with

with Water, and Coagulation by *Acids*, and the yielding some *Acid* in Distillation, are Effects which (with many others) are only known by Experiment, though applicable to *Animals*.

Bitters are unpleasant to the *Taste*, and inclining to an Acrimony; whence they are accounted hot: Their other Affections of the Palat are not very evident; but because they deterge *Ulcers* outwardly, they are esteem'd of a deterging *Taste*: For *Galen* says, *Bitters* are the same as *Nitrose Tastes*, but stronger; and from the clearing Nature of *Nitre*, *Bitters* are said to deterge the *Palat*, and cleanse the *Stomach* and *Liver*.

Because an Astringent *Taste* is joyn'd with Bitter, therefore *Bitters* are of an Exasperating *Taste*; and by this Roughness, strengthen the *Viscera* and *Fibres*.

The Vertues of *Bitters* in killing *Worms*, preventing Putrefaction in *Fevers* and *Ulcers*, their Diuretick and Sudorifick Vertue, and their Contrariety to *Acids*, are the Consequences of known Experiments, and not deducible from the Modes of *Taste*.

Nauseous Tastes immediately indicate a Purging or Vomiting Quality; and are generally

nerally Bitter-Sweet or Bitter-Slimy, by which we perceive when the *Tongue* is contrarily affected; and by the same Object an unpleasant *Taste* is produced.

Acrid Tastes are Penetrant and Pungent, and bite and heat the *Mouth*: They therefore heat and rarefie thick Humors, and the *Blood* and *Chyle*, and open Obstructions; outwardly they discuss Tumors, and draw in Plasters.

By Experience these are known to correct *Acids*, and coagulate with them into a Mixt *Salt*, which is Diuretick and Sudorifick; and, by correcting the *Acids* of the *Spleen* and *Nerves*, become Antiscorbutick and Cephalick.

Caustick Tastes vesicate both the *Tongue*, and outward Skin, and Vomit and Purge.

Sweet Tastes have a grateful Oily Smoothness, by which they lenifie *Coughs*; and are outwardly digesting, by their Moderate Heat. They are no less grateful to the *Stomach*, than pleasing to the *Palat*.

That *Sweet* will become *Bitter*, we know only by Experiment; and by the same we know, that all very Sweet Things are hot, and that they are Laxative.

Aroma-

Aromatick Tastes are Acrid, and Pleasing to the *Taste* and *Smell*; therefore by their Acrimony they rarefie the *Blood*, open Obstructions, please the *Stomach* and *Spirits*; and therefore are Cordial, Stomachick, and Cephalick; and, also, outwardly comfort and strengthen Weak Parts, by their agreeable Heat.

I have set down these known Modes of each *Taste*; and shewn, that by their means we know, that *Earthy*, *Watry*, *Acid*, and *Mucilaginous*, are cool *Tastes*, and cool the Animal Humors; and have also other Effects, which depend not on Coolness: And I have also demonstrated, that *Bitters*, *Aromaticks*, *Acrids*, and *Causticks*, are hot *Tastes*, and have hot Effects on *Animals*.

From the same Modes of *Tastes*, and from Experiments made on Particular *Tastes*, we may examine all Compound *Tastes*: But we must consider; as Colours mixt are a different Colour from the Simple Colours; so it is in *Tastes* Compound, as appears in Bitter-Sweet, and Bitter-Slimy; neither of which, alone, are Nau-
seous.

C H A P. X V.

Of the Degrees of Taste.

GALEN makes Four Degrees of the Vertues of *Plants*, reducing them to Hot, Cold, Moist, and Dry.

1. That is Hot in the First Degree, which does not evidently heat, but we find it by some Reason about the Nature of it.

2. Those that manifestly heat, are of the Second Order.

3. Those which vehemently heat, are of the Third Order.

4. Those which burn, or induce an E-schar, are of the Fourth Degree.

But seeing the Vertues of *Plants* are so evidently deduced from their *Tastes*, and those *Tastes* so well experimented by many Chymical Distillations and Mixtures; and since the Nature of the Humors of the Body, and all Diseases, have been better observ'd

observ'd than in *Galen's* Time; I have not confin'd my self, in describing the Natures of *Plants* to Hot, Cold, Dry, or Moist; but have added all the Compositions of *Tastes*, and sensible Effects of their Modes; whereby I might particularly express the Nature of each *Plant*: And according to the experimented Vertues of *Tastes*, I have added those which belong to each Particular; and, I think, I need add no more, but the several Degrees of *Taste*; which may most easily be understood, and which may have a different Degree of Vertue. I therefore have observ'd Three Degrees in *Tastes*: As for Instance;

In *Bitters* the First Degree is a little *Bitter* or *Bitterish*; which does but just sensibly affect the *Taste*; and therefore have the lowest Degree of Vertue, as *Bitter*.

The Second Degree is *Bitter absolutely*; which considerably affects the *Taste*, and is of a Moderate *Bitterness*.

The Third Degree is *very Bitter*; which much offends the *Taste*, and has the highest Degree of *Bitters*.

The same Degrees are observable in *A-*
G 3 *cid*,

cid, Sweet, Mucilaginous, Acrid, Aromatick, Watry, and Earthy Tastes.

By these Degrees of *Tastes*, we express that a little of a *Taste*, or a moderate Degree of *Taste*, or else a greater Quantity of each *Taste*, is to be found in each particular *Compound Taste* of a *Plant*.

Note, That *Acrid* is the Cause of Biting and Heat; and therefore, I have us'd them in the *SECOND PART*, as *Æquivalent Terms*.

The End of the First Part.

A Phy-



A

Phytological Essay, &c.

The Second Part.

THE

Tastes and Vertues

OF

Spontaneous English Plants.

A.

A.

THE *Firr-Tree*. The Bark and Abies.
 Leaves are Bitterish, Rough,
 and have a *Turpentine Taste*
 and *Smell*. It is a good Vul-
 nerary; and therefore works, as *Turpen-*
tine, by *Urine* in the *Stone* and *Scurvy*.

G 4

The

The Leaves are most Rough in *Taste*, and therefore most Vulnerary. This is to be referr'd to the *Turpentine* Class. The Young Leaves of *Firr* and *Pine* are Sourish and Rough.

Abrota-
num.

Southernwood is of a very Bitter, Acrid, Hot *Taste*, and Strong *Smell*. Outwardly it is good against *Convulsions* and *Pal-fies*. In its Bitter, Acrid *Taste*, and Fetidness, it seems to resemble *Sea-Wormwood*, and to belong to the same kind. It hath something Aromatick in the *Smell*, like *Chamæmel*.

Abfinthi-
um Com-
mune.

Common Wormwood is very Bitter, Acrid, and Hot in *Taste*, with a grateful *Smell*. As it has a Bitter and Acrid *Taste*, it cleanses the *Stomach*, and excites *Appetite*, provokes *Urins*, and opens the *Liver*; therefore it is good in the *Jaundice* and *Dropsie*. By the afore-mention'd Qualities, it outwardly discusses *Tumors*, inwardly kills *Worms*, and is good in long *Tertians*, by rectifying the Acidities in the *Cholerick Blood*.

The Roots are not Bitter, but Sweet, Aromatick, and Hot, like *Chervil*; and are Diuretick, Carminative, and Stomachick. Dr. Grew says, There is a *Turpentine*

Pentine in *Wormwood*-Roots, and also an *Astringency* in *Wormwood*, and in all strong *Bitters*.

Sea-Wormwood hath a less Bitterness, Absinthi- but more unpleasant; of the same Ver-um Scri- tue as the former, but weaker. *phium*.

The *Sycamore-Tree*: The Bark is a *Acer ma-* little Mucilaginous, Bitter, and Rough; *jus, Syca-* the *Juyce* which runs upon Tapping, is *morus*, Sweet, Nauseous, and Astringent; the Leaves taste very Rough; the Vertue lies in the Astringency, with a little Bit- terness.

Common Maple: Its Bark is very Rough *Acer mi-* and Bitterish; the Vertue depends upon *nus*. the Astringency.

Common Sorrel: Its Leaves are Acid *Acetofa* and Astringent; by which it cools in *vulgaris*. *Fevers*, excites *Appetite*, and is *Diu-* retick.

The Root is Bitter, Astringent, and Nauseous: There is an *Anti-febrile* Ver- tue in it, by purging *Choler* from the *Blood*. The Root is Yellow without, and has a Dock-Bitterness; to which I refer it.

Wood-

Acetofella. *Wood-Sorrel* is the same: If the Juyce be thicken'd, the Crystals that settle in the Bottom, taste like *Cream of Tartar*, Gritty and Sowre.

Acetosa The *Sheep-Sorrel*, and *Acetosa Rotundilanceolata folia*, have the same *Taste* and *Vertue*.

Acinos. *Wild Basil* tastes Bitterish and Sub-acrid, with an Aromatick *Smell*: It is a *Cephalick*, by that *Taste* and *Smell*.

Acorus ve- The *Aromatick Reed*: The Root tastes
rus, seu Ca- Bitterish, with an *Aromatick Taste* and
lamus Aro- *Smell*, by which it discusses Wind. It is
maticus. Cordial, and provokes *Urine*, and works
as an *Aromatick*. It favours something of
a *Balsamick Turpentine*.

Adiantum *Wall-Rue* is Sweet-Astringent, like the
album. *Ferns*; by which it is a Splenetick, check-
ing the Fermentation of the *Blood*; and
it's a Vulnerary for the *Lungs* and *Kid-
neys*.

Adiantum *Golden Maiden-Hair* is Astringent, like
aureum the *Ferns*; with an *Earthy Smell*, by which
minus. *Mosses* and *Ferns* differ most, being of a
very like Nature.

Holly-

Holly-Tree : The Bark tastes Mucila- Agrifolium
ginous, a little Biting, and Bitterish : The
Leaves are Bitterish ; by which it doth
good in the *Colick*, if boyl'd in Posset-
Drink. *Holly* hath an Acrid in it, joyn'd
with Bitterish, and a Mucilage ; therefore,
the distill'd Water may help the *Stone*.

Red Berries of *Holly-Tree* taste Sweet, Agrifolii
Bitterish, Acrid, and Mucilaginous ; by *Bacca*.
which they are Purgative.

Agrimony is moderately Bitter, Sub- Agrimonia
acid, and Astringent, with an Aromatick vulgar.

Smell : By its Bitterness, it's good for the
Stomach, and Obstructions of the *Liver* ;
by its Astringency, it is Vulnerary ; and
by its Aromatick *Smell*, is Cordial : Its
Astringency makes it good for stopping
involuntary Pissing ; and its Bitterness
corrects the Acidity of the *Urine*, which
stimulates too much.

Vervain-Mallow is Mucilaginous, like *Alcea* vul-
Common Mallows, and of the same Vertues. gar.

Ladies Mantle is moderately Astrin- Alchimilla
gent, without any Heat ; by which Qua- vulgar.
lity it's good in all *Fluxes* of *Blood*, and
in *Wounds*.

Jack

Alliaria. *Jack by the Hedge*: Its *Smell* is Rank, like *Garlick*; and it is Bitterish and Acrid in its *Taste*: Its *Vertues* are like those of *Garlick*, and are good for the *Cough*. It is Diuretick, and resists Infection; and is good in Sawces. It is outwardly us'd in *Gangreens*, and sordid *Ulcers*, in the form of an Oyntment.

**Allium Ur-
simum.** *Ramsons*: They *smell* like *Leeks*, and their *Taste* is the same: The Roots resemble *Leeks*. They are very Mucilaginous and Acrid, with a *Garlick* Smell, and of the same Vertue as *Leeks*.

**Alnus vul-
gar.** *Common-Alder*: The Bark is Astringent, and a little Bitter: The Leaves are of the same *Taste*, but less strong, and feel Gummy.

**Alnus Ni-
gra Bacci-
fera.** *Black-Elder*: The Bark is Bitter and Slimy; the Berries Sweet, Bitter, and Mucilaginous; the Leaves are Mucilaginous, and Bitterish: They all Purge and Vomit. Outwardly the Bark is good for the *Itch* in Oyntments, by its Mucilaginous Bitterness.

**Alfine Te-
nuifolia.** *Chickweed*: Its *Taste* is Watry, Crude, and feels Mucilaginous: It therefore cools *Inflammations*. *Speed-*

Speedwell-Chickweed is Bitterish-Astringent; and therefore no *Chickweed*; but, by its *Taste*, is a Vulnerary. Alfine Folii Veronice.

Marsh-Mallow Roots, Leaves, Flowers, Althæa and Seeds are very Mucilaginous: Whence it is good in Decoctions for the *Stone* and *Cough*; as also is the Syrup. Outwardly it mollifies and allays Pains: It is put into *Baths* and *Cataplasms*; and is an Emollient. The Mucilage is good for *Chops* in the *Breast*, and Pains by *Vesicatories*.

Brook-lime is a little Acrid, with much Waterishness, and great Astringency: By Aqu. seu which *Tastes* it stops Bleeding, cools the Inflammations of the *Blood*; and is good for the *Scurvy*, by its pungent Parts. Becabunga.

Male-Pimpernell: It tastes like *Sorrel*; and afterwards it heats and bites, by its Acrimony. This Acrid-Acid is good in *Pestilential Waters*; by its Acrimony it provokes *Sweat*, and by its Acidity, *Urine*. Anagallis mas flore Phoeniceo.

Pimpernell with *Yellow Flowers*, smells like *Sorrel* when rubb'd, and tastes Rough and Astringent; therefore a good Vulnerary. Tutsan,

Androsæ-
mum vul-
gar.

Tutsan, or Park-Leaves, hath a strong *Turpentine Smell*; the *Taste* is a little Sowre-Astringent, and Bitterish: Therefore it is an excellent Vulnerary, and Diuretick; and though the *Turpentine* is in the *Smell* very much, yet it tastes but a little Bitter.

Anemone
Nemorum.

Wood-Crowfoot is very Acrid, or Caustick; flies up into the Nose, if rubb'd: Is a sort of *Ranunculus*, and Bitterish.

The Root of the *Garden-Anemone* tastes Watry, Sweet-Acrid, and a little Slimy.

Angelica
minor seu
Podagraria

Angelica the Lesser, or Gout-wort, smells like *Angelica*, and tastes like it, but nothing so strong: It hath the same Vertues in a lower Degree. It is called *Podagraria*, from its knobbed Joynts on the Roots, rather than from any Vertue for the *Gout*.

Angelica
Sylvestris.

Wild Angelica is Sweet, Bitterish, and Aromatick; like the *Garden* sort in Taste and Vertue; but not so strong.

Anonis Spi-
nosa flo.
Purpureo.

Common Rest-Harrow, with *Purplish Flowers*: The Roots and Leaves have a *Pea-Taste*, Sweet and Mucilaginous; the Leaves feel clammy, and smell strong. The Ver-

Vertues are from the Mucilage, good for the *Stone* ; and from its strong Smell, Diuretick and Aperitive.

Kidney-Vetch hath a sweet *Pea-Taste*, Anthyllis and a little Bitter ; being rubbed, it smells Legumirank Oyly ; and therefore is accounted *nosa*. Vulnerary.

Snap-Dragon tastes Bitterish and Muci- Antirrhinaginous, with an *Elder-Smell* : So that *num*. it is Discutient, Anodyne, and Emollient, like *Linaria*, and of the same Virtues.

Clivers hath a Hot, Acrid, Bitterish and Aparine Sub-Astringent Taste ; and therefore is a *Vulgaris*. good Diuretick, either boyld in White-Wine, or its Juice, or Powder, or distill'd Water. Outwardly applied with Hogsgrease, it may discuss *Scrophulous Tumors*. It is a Madder.

Wild-Smallage is like the Garden sort, *Apium*. in Taste and Vertue ; Bitterish, Sweet, Hot, and Aromatick in the Root, Seeds and Leaves : It is therefore Carminative, Diuretick, and a good Aperitive. *Smallage* has a Bitterishness in the Leaves and Roots, which makes it ungrateful.

Colum-

Aquilegia Sylvestris. *Columbines*: The Leaves and Flowers taste Bitterish-Sweet; the Roots are Watery, and a little Bitter, and Sub-acrid. It is therefore a temperate *Plant*, rather Hot than Cold. The Roots are Diuretick; the Leaves are used in *Gargles* for Sore-Mouths. *Columbine* is of the *Pea-Tribe*.

Argemone. *Bastard-Poppy* is of an Opiate Smell; in Taste, Mucilaginous: It is Opiate, as *Papaver Rhæas*.

Argentina. *Wild-Tansie*: The Leaves are Rough-Astringent, and dry; the Roots Bitter-Astringent, like *Cinquefoyl*. It stops *Fluxes*, and *Hemorrhages*; and is Vulnerary and Antifebrile, by the Bitterish Roughness.

Armeria Sylvestris. *Deptford-Pink*: If rubbed, it smells Sweet, tastes Sweet-Bitter, and is nauseously Bitter-Astringent, like *Garden-Pinks* in Taste.

Armerius Pratenfis. *Meadow-Pink*, or *Wild-Williams*, is Watery and crude like the *Lychnis*.

Artemisia Vulg. *Mugwort* tastes Bitterish and Aromatick, with an Aromatick Smell: It is Cephalick and Uterine. It is inwardly used in

in Syrup of the Juyce, in Water for Fits of the Mother, and driving out the *Menses*, but it doth that weakly. Outwardly it is used in warm Baths : The Smell resembles *Wormwood*, and is of that kind.

Wake-Robin : It is strongly Acid, Pungent, and Vesicating the Palate and Tongue, by its Volatile Salt ; it is not perceived till after some time. By that Salt, it is good for the *Scurvy* ; it is Diuretick, Antisplenetic, Pectoral, and Cephalick ; the Salt flies away being long Powdered. The *Red-Berries* are Biting and Slimy. The Leaves rubbed have no considerable Smell, in respect of their Acrimony : *Vinegar* corrects the Acrimony, and therefore the Acrimony is Saline, and not Oleous : But the *Pouches* stink very nauseously, which stink depends upon an Oyl and Salt.

St. Peters-wort smells and tastes (like *Ascyrum* *St. Johns-wort*) of *Turpentine*, and is Bitter-vulgarish and Astringent ; and therefore is Vulnerary.

Asparagus : The Roots have a *Pea*-taste, *Asparagus* Bitterish, Watry, and Acid ; which, as in other Diureticks, affects the Throat, and
H there

therefore it is a great Diuretick, and Opener of Obstructions. The Grassie Leaves of *Asparagus*, have a *Pea*-taste, and if rubbed, they smell like *Peascods*: The *Fætor* they give to the *Urine*, proceeds from an Oylinefs; which is observable in many of the *Pea*-tastes: to which *Fætor* also the Acrid hot parts of the *Asparagus*, which are perceptible in eating of green *Sparagrass*, by burning the Throat, do much conduce: The Berries have a sweet Taste.

Asperula.

Woodroof is Bitter and Acrid, with a Fragrant Smell: It's therefore a good opening *Hepatick*; and by its Taste and Smell, appears to be a *Madder*. The Fragrancy of it argues a Cordial Vertue. It is usually infused in Beer, or distilled.

Asplenium.

Ceterach is sweet and rough like other *Ferns*, good against *Fluxes*, and *Bleeding*, and *Splenetick Fermentations of the Blood*, by its rough Astringency. There is an obscure Acrimony in all *Ferns*, by which they are Aperitive.

Atriplex
Sylvestris.

Wild Orach: The Root, Leaves, and Seeds are Mucilaginous, and of a crude Fetid Scent. Outwardly in *Fomentations* and

and in *Clysters*, it's Emollient, Cooling, and Anodyne: It seems not proper for inward use by its ungrateful Smell, and nauseous Mucilage.

Stinking Orach tastes Mucilaginous, Atriplex and is Fetid in Smell, by which it is *An-Olida. tibysterical.*

Oats: The *Green-Corn* tastes sweet and Avena. crude; the *Oats* are Mucilaginous-sweet.

Moufe-Ear is Bitterish and Astringent, Auricula therefore good in Fits of *Agues*, and in Muris seu *Fluxes*; and is a *Vulnerary*: It may be re- Pilosella. ferred to the *Hawk-weeds*. Outwardly, by the Astringency, it cures the *Herpes*. It Tastes of an ill Fusty Taste towards Winter, by lying near the Ground.

B.

B.

S*tinking Horehound* is of a Dead-Ballote. *Nettle*, strong, stinking Smell, and very Bitter in Taste; by which it is *Antibysterick*, and *Antihypocondriack*; and outwardly cleansing in *Ulcers*. It is a little Acrid, and belongs to the *Lamium*-Class.

H 1

Winter-

Barbarea lutea Lati-folia. *Winter-Cresses* is of a *Cress*-Taste and Vertue ; It cleanses *Ulcers* outwardly, by its *Cress*-Pungency.

Bardana major. *Great Burdock* : The Root tastes Watry, Slimy, Bitterish, and Smoaky ; by which it is Diuretick, and good in the *Gout*, *Stone*, and *Cough*. The Seed is Bitter, and of the same Vertue with the Root : The Leaves are very Bitter, like *Carduus Benedictus*, and may be used for *Sweating* and *Vomiting*, instead of it. This *Plant*, by its Prickly head, and Purple Flower, is like to the *Carduus* kind, as well as by the smoaky Taste, and Bitterish Slime.

Behen Album. *Spatling Poppy* has a crude Taste and Smell, like other *Lychnis*'s ; and is of the same Vertue.

Bellis major. *Great Daisie* : The whole *Plant* is sweet like *Liquorish*, and therefore of the same Vertue in *Coughs* ; it is also a little Pungent (discernible most in the Stalk.) This Acrid makes it useful in an *Orthopnœa*. I use it as *Thea*, and sweeten it with Syrup of the Juice of *Horehound*. The sweet Smell of it is Fragrant, like *Erigerum*, and the Leaves resemble it ; but in Taste it is most like *Rampions*.

Little

Part II. Spontaneous English Plants. 101

Little Dasse : The Leaves and Roots *Bellis mi-*
are Acid ; and therefore are Cooling and ^{nor.}
Diuretick, when boyld in Broth for
Children. I took three spoonfuls of the
Juyce of the Leaves, for divers Mornings,
and found no Purging quality in it. I
judge it is of the *Sorrel-Species* and Ver-
tue ; and I think the Juyce is proper for
Spitting of Blood ; but do not think it
properly *Vulnerary*, tho' Authors call it
Consolida minor. The taste of the Root
is Bitterish and Pungent-acid ; wherefore
the Acidity in *Dasses* is like the Pungent
Acidity of *Vinegar* ; and then it may be
accounted a *Sorrel* : Or else it hath an A-
crimony joyned with the *Acid*, like *Rosa*
Solis ; for it doth a little blister, though
without Heat.

Water-Betony is nauseously Bitter, and *Betonica*
of an *Elder*. Smell ; it has the Taste and *Aquatica*.
Vertues of *Scrophularia* : It is most used
in Oyntments, for *Tumors*, *Burns*, and
Ulcers.

Wood-Betony is Bitterish, and a little *Betonica*
Hot, with an Aromatick Smell, but some- *vulgaris*.
what resembling the *Lamiums*. By the
Taste and Smell it is *Cephalick*, *Diuretick*,
Pectoral and *Vulnerary*. It is used in

H 3

Powder,

Powder, Juyce, and Conserve of the Flowers. The Roots are very Bitter, like *Peach-Kernels*, and may cause Vomiting or Purging. It seems to belong to the *Lamium*-Class, the Root tasting like *Verain*-Root.

Betula.

The *Birch-Tree*: The Bark is very Rough and Bitter, and so may be Vulnerary; and as such, will act inwardly: It will make a good Extract. The Leaves are Mealy, Mucilaginous, and a little Bitter, and so may be good in Baths for the *Itch*. They smell a little Sweet; the fresh Juyce of the wounded Tree is Sweet, which will turn Sowre: It will make a good Wine for the *Stone* with Spices. The crude Juyce is too raw for the Stomach: If it be Distilled or Brewed with *Malt*, it may be good for *Hecticks*.

*Bifolium
Slyvestre.*

Tway-Blade: The Taste is Sweet, Mucilaginous, and a little Acrid or Biting. It is probably of the *Orchis* kind: Its Vertue lyes in the Mucilage, or Acrid Biting; by both which it may be outwardly Emollient, and inwardly Diuretick.

*Bistorta
vulgaris.*

Bistort: The Root is rough, and bitterish like *Sorrel*; and therefore stops
Fluxes,

Fluxes, abates *Præternatural Fermentations*, and so is *Alexipharmack*, and not *Sudorifick*; but it abates too much Sweating, as well as Acids: The Leaves are Crude and Mucilaginous. It seems a kind of *Sorrel*.

Blite is Mucilaginous, and Crude in *Blitum* mi-Taste; therefore its Vertue is Cooling nus album. and Mucilaginous; of the nature of *Beets* or *Atriplex*.

English Mercury: It's *Sorrel*-tasted in Bonus the Roots, Leaves and Seeds, exasperating Henricus. or corroding the *Throat*: The Leaves are also Mucilaginous, and of a Grassy Smell: It is therefore accounted Emollient; and its Acid outwardly cools Inflammations. It has Sandy, Globular parts on the backside of the Leaves; which may work as Testaceous Powders, and be Diuretick. The exasperating Quality may irritate in a *Pessus*, and make it Laxative in *Clysters*, as well as its Mucilage; from the same also is its Diuretick Quality. I think it like *Atriplex* or *Beets*: It is good for *Warts* outwardly; and diffusses in *Cataplasms*, as appears by the burning Quality in the *Throat*.

Mr. Ray says, The Root is Acrid and Bitter.

H 4

White

Bryonia
Alba.

White-Bryony: The Root tastes Sub-acrid, very Bitter, and Mucilaginous; and therefore Vomits and Purges, as other Bitter Mucilages do. Outwardly, by the same Qualities, it cures *Warts*, *Struma's*, Pains of the Hips, Bruises, Pains of the Sides, and *Gout-Pains*; and is laid to the Feet in *Cataplasms*, for Distempers of the Head.

If the Root be dried, and the Mucilage afterwards drawn out by Infusing in Wine, and then again dried, it Purges and Vomits much less. Mr. Ray.

The Leaves of *Bryony* have the same Taste and Vertue; and some have used the Decoction of them for the *Stone*; but ten Spoonfuls thereof Purged and Vomited a Dogg strongly. The *Red Berries* have a most abominable Taste and Smell; Country-men give them for the *Hoof* to the Cows. The *Fæculæ* of the Root are Purgative; and, as Fetids and Bitters, they work in *Hysterick Cases*. The Sprouts boy'd like young *Asparagus*, I found most nauseous, and not fit to Eat.

The Roots are pounded into a Conserve for Fits; but I cannot believe any Stomach can hold them.

Bryonia
Nigra.

Black-Bryony: The Leaves are Mucilaginous,

luginous, Bitterish, and a little Biting, and therefore Diuretick; the Root is Acrid, and (as a Physician told me) blisters the Hands. It is as Diuretick, but not so Purgative as the *White-Bryony*.

Small Wild-Bugloss: The Leaves and Buglossum Roots are Cool, Watry, and Mucilagi- Sylvestre nous; in Juyce and in Decoction it cools minus.

Hecticks, Inflammations, Heats, and Thirst, and stops *Rheums*: The Flowers have a little Cordial Heat in them, besides their Watry Mucilage.

Bugle is Bitter and Rough in Taste, *Bugula* Ca- and therefore Vulnerary: I suppose it rulea. may be a *Veronica* or *Lanium*. *Bugle*, *Scabiose*, and *Sanicle*, make a good Oyntment, with *Bores-grease*, for Wounds.

Earth-Nuts are Sweet, Hot, and Aro- *Bulbo* ca- matick, and belong to the *Fenil-kind*, stanum. by Taste and Vertue: The Roots are Sweet and Mucilaginous; the sweet A- crimony and Mucilage makes them Di- uretick and Venereal.

Shepherds-Purse is of a *Cress-Smell* and *Bursa Pa-* Taste, tho' in a low degree: The *Astrin-* storis, gency is but small, and deserves not the
Cha-

Character of an excellent Astringent.

BUXUS.

Box-Tree: The Leaves and Bark are very Bitter and Rough, therein resembling *Guaiacum* by its Taste; and therefore used in its stead, in drying Decoctions. I cannot perceive any Narcotick quality in it. It is given to Horses for the *Botts*. Some account it Antiscorbutick.

C.

C.

Calamintha vulgaris.

CALAMINT is of a Bitterish and very Acrid, Aromatick Taste, and of a strong Aromatick *Mint* Smell; and therefore is an hot Cephalick, Uterine, Pectoral, and Stomachick, by its Bitterness and Acrimony; thereby giving a quick motion to the Spirits, and also heating the Nervous Fibres.

Caltha Palustris.

Marsh-Marigold: The Flowers finell like *Lilies*; the Leaves are Mucilaginous, and a little warm or pungent. By its Acrimony it is a *Marigold*, or rather a *Crow-foot*.

Bell-

Bell-flowers; The Leaves are Biting, *Campanula rotundifolia*.
and sweet like *Rampions*.

Bastard-Hemp is Bitterish, Sub-acrid, *Cannabis*
and of an Aromatick smell: It is account-*spuria*.
ed a *Lanium*.

Hemp is Bitter and Acrid, of a sweet *Cannabis*
Aromatick Smell, like *Agrimony*, but more *Sativa*.
strong: It is not fit to be taken inwardly;
for by that Smell it produces Giddineis;
and probably kills Fish: It has a more
offensive Smell after it is gathered and
dried. By its bitter Acrimony it is most
fit for outward use in discussing and dis-
solving Kernels, and easing Pains. The
Seeds have a Mucilage, and are used in
Emulsions, as Diureticks and Openers in
the *Jaundice*, by the bitter Acrimony and
strong Smell. No Diuretick can be an
Antivenereal, as *Hemp* has been account-
ed; unless it destroys the *Animalcula in*
Semine, as it does Worms, and other In-
sects, and Fishes in the River.

An Oyl may be expressed from the
Seed for Burns.

Ladies Smock is a Biting-Acid, like *Cardamine*
the *Nasturtiums*, and of a *Cress*-Smell and
Vertue.

Mother-

Cardiaca. *Mother-wort* is very Biting and Bitter, therefore good in *Hypochondriack Faintings*, and *Fits of the Mother*, to provoke *Urine*, and the *Menses*, and to *Expectorate*: And it is also a *Cephalick* in *Convulsions* and *Palsies*; but is chiefly an *Hepatick*, as *Bitter-Acrids* are.

The Smell of it is like *Dead-Nettle*, and belongs to that Tribe. It is also reckoned amongst *Bezoardicks*, for its Bitter-Acrimony.

Carduus vulgaris & Lanceolatus. *Thistles*: They taste Watry, Mucilaginous, Bitterish, and Smoaky, by which they are Diureticks; but also very nauseous.

Carduus Mariæ. *Ladies-Thistle*: The Leaves are Bitterish and Slimy, and may be Eaten boil'd. The Root is Bitter, Mucilaginous, and Smoaky; by which it is Diuretick, but very offensive; as any other *Carduus* is to the Stomach; and therefore may be Vomitory, as *Carduus Benedictus* is.

Carlina. *Carlina-Thistle*: The Roots taste Bitterish, and a little Acrid, of a *Mithridate* flavor. It may be therefore used as an Alexipharmack, and Hepatick, and Diuretick, because of its Bitterish Acrimony.
It

is Sub-acrid, and a little Aromatick,
mixt with an unpleasant Smell.

Avens: The Leaves are Astringent, Caryophyll-
and therefore given before the Fits of a *lata vulga-*
ertian Ague. The Roots smell and taste *ris*.

like *Cloves*; and are therefore *Cordial*, *Ce-*
phalick, *Stomachick*, and *Alexipharmack*.
The Root has also an Astringent Taste;
and therefore good in *Fluxes of the Belly*,
and *Weakness of the Stomach*; given in
powder, or Infusion in Wine: the Vertue
lies in being an Aromatick Astringent,
bitterish and Acrid. By the Taste and
smell it is a *Clove-Gilliflower*.

Chestnut-Tree: The Bark is very Rough, *Castanea*.
and a little Bitter. The Leaves are a lit-
tle Sowre, Slimy, and Hot; they smell
woaky. The Bark is used as an Astring-
ent in *Loosenesses*, and the *Whites*. The
fruit is Sweet-tasted, fit for Food, with
an Astringency, which lyes in the Skin
of the Fruit.

Hedge-Parsley: The Leaves, Root, and Caulis.
flowers are Hot, Sweet, and Aromatick.
and its Taste and Smell is like *Daucus*
and therefore is Diuretick and Carmina-
tive.

Lesser-

Centaureum minus. *Lesser-Centaur* has a very strong Bitter Taste, like a *Peach-Kernel*, with an evident Astringency, but no Acrimony or Pungent Heat; therefore it may be used as a good *Hepatick*, *Uterine*, and *Antifebrifick*, in Extract, Decoction, or Powder, in the *Jaundice*, *Gout*, and *Fevers*. Outwardly, it is a cleansing *Vulnerary* and *Cicatrises*. It is not unlike a Bitter *Lychnis*. *Quære*, Whether there be any Sweetness in *Centaur*, besides the Bitter?

Cerasus Avium racemosa. *Birds-Cherry*: The Bark is nauseously Bitter and Astringent, and of a *Peach-Kernel-Taste*. The Leaves are of the same Taste and Smell, resembling the Leaf of a *Cherry-Tree*. The Flowers smell very Fragrant.

Cerasus vulgaris. *Cherry-Tree*: The Bark is very Bitter and Astringent; but it makes a whiter Powder than *Jesuits Powder*: The Bark may be given for the *Fits of Convulsion*, as well as *Black-Cherry-Water*, which has the Virtue from its Bitterishness.

Acid-Cherries cool and excite Appetite. The Sweet nourish, and may loosen the Belly.

The *Black* are Bitterish; their Water, Spirit, and Wine are good for *Convulsions*.

Cherry-

Part II. Spontaneous English Plants. III

Cherry-Tree Gum is good for *Hoarsnesses*, and *Ulcerations of the Kidneys*, by its *Mucilage*.

Black-Cherry-Tree-Leaves are Bitterish and Mucilaginous.

Chervil: The Roots, Leaves, and Seeds Cerefoli- are Sweet, and sensibly Hot, Aromatick um Sylve- and Diuretick, Carminative and Pectoral. stre & Hor- Outwardly it is used in Fomentations for tense. the *Stone*, *Colick*, and *Swelling of the Breasts*: The distilled Water and Juyce are most used; the Juyce is good for *Vertigoes*.

Germander tastes very Bitter and Acrid, Chamæ- and smells like *Hops*; it is accounted a drys Sylve- Diuretick, Splenetick, Hepatick, Uterine, stris & Hor- Antifebrifick, and Arthritick. It seems tensis. preferable to the *Lamiums* by the Smell; and is Sub-aromatick like *Betony*; and so are some of the *Lamiums*. Outwardly it is good in *Gangreens* and sordid *Ulcers*.

Chamomile tastes Bitterish and Acrid; Chamæ- and is Aromatick in smell; therefore it melum is chiefly Cephalick, Diuretick, Sudorifick, vulgare; and Uterine. Outwardly it is discussing. the Juyce is given before Fits of the *Ague*, and for pains of the *Stomach*. The Flow- ers

ers Infused in *White-Wine*, taste Saltish, and are used for the *Stone*. Mr. Ray.

**Chamæpit-
tys vulga-
ris.**

Groundpine tastes very Bitter, and has a Terebinthinate taste and smell: It is good in *Arthritick* cases, by its Bitterness and *Turpentine*; and also for cleansing of the Womb by the same quality; and is very Diuretick.

**Chelidoni-
um majus.**

The *Greater-Celandine* is extremely Bitter and Acrid; by which it is accounted good in the *Jaundice*, and *Obstructions of the Liver*: The Juyce is outwardly used to the *Eyes*, but chiefly the Water. By the same Quality it is *Diuretick* and *Alexipharmack*. Outwardly it is good for the *Herpes*; and is a cleansing Vulnerary.

**Chelidoni-
um minus.** *Lesser-Celandine* tastes Waterish, Crude, and a little Pungent, resembling *Scurvy-Grafs*; good for Hot *Scorbutick Blood*, and *Inflamed Piles*. The Stalk tastes Acrid like *Ranunculus*, rather than *Scurvy-Grafs*. The Roots have knobs like *Piles*; it may be a *Ranunculus*. Tho' the Pungency be very weak, the distilled Water is Sub-acrid. *Lesser-Celandine* outwardly discusses *Scrophula's*.

Corn-

Part II. Spontaneous English Plants. 113

Corn-Marygold: The Leaves are Slimy, Chrysanthemum
Bitterish, a little Biting, and of a strong Scent, like common *Marygolds*. It is a Segetum.
nauseous Plant, not fit for inward use.

Succory is Watrish, Bitter, and Smoaky; Cichoreum
by which it cools the Blood, opens the Liver in the Jaundice, and Choleric Catarrhes.
chexies; and is Diuretick. It is like the
Hieraceum-kind.

Hemlock is of a Fetid Opiate, and virose Cicuta.
Smell; it tastes very Acrid and Sweetish,
like the Parsly-kind, but especially *Cicuta*
fatua. *Hemlock*-Root causes Frensie and
Stupidness, as if the Persons who take it
were Drunk; and also a *Giddiness*; which
happened to my Man, who grew Sleepy,
and Giddy after his chewing of the Root,
and swallowing some of it. I gave a
Glassful of the Juyce of the Leaves and
Roots to my Dogg, which made him ve-
ry Sick, without any other alteration. Vo-
miting is necessary after the taking of
Hemlock. It may be outwardly used in
Anodyne, and *Discussing Emplasters* for
Tumors, or for the *Spleen*.

Water-Hemlock: The Root smells most
offensively Fetid, when broken.

I

Cicutaria
Palustris
Wild-alba.

Cicutaria vulgaris. *Wild-Cicely, or Madneps,* have a Sweet, Sub-acrid, Aromatick *Parfnip* Taste and Smell in the Leaves and Roots: They cause a *Stupidity* and *Frenzy*. Give a Vomit after them, and afterwards *Alexipharmacks*.

Circæa Luteiana. *Inchanters Night-Shade,* tastes a little Acrid, Sweet and Astringent, and has a *Solanum* smell. The Leaves may be outwardly used as an *Anodyne*, and repelling Medicine: It is a *Solanum* by its smell.

Clematis Daphnoides. *Periwinkle* has a *Laurel* Bitter, and a little Acrid without any considerable smell: It is accounted a *Vulnerary*, and may be referred to the *Laurel* Bitters, and is not so proper a *Styptick* as Authors write. The Roots are like the Leaves, Bitterish, Sub-acrid, and Astringent.

Cochlearia. *Scurvy-Grass;* The Flowers, Leaves and Roots are extreamly Acrid. By its Volatile Salt, it is good against the *Scurvy*, in Spirit, Juice, and *Aqua Raph. compos.* The Seeds yield most Oyl, being most Bitter. The Juice is used to the Gums, with Burnt *Alum* for the *Putridness* of them.

Conserva Palustris. *Crow-silk* is of a cool Taste.

Bacchar,

Part II. Spontaneous English Plants. 115

Bacchar, or *Plowmans Spikenard*, is Bit-*Conyza*
terish, Acrid, of a little Aromatick-Scent, ^{major}Mat-
like *Spikenard*; and is a Cephalick Herb, ^{thioli}.
and has a Resinous, Fragrant, and Tere-
binthinate Smell.

Common-Fleabane is very Bitter and *Conyza*
Biting, of a strong, and somewhat Fetid ^{media}.
Smell, like *Marygolds*; and probably an-
Hysterick and Uterine; outwardly discus-
sing in Medicines for the *Eyes*; and good
in Oyntments for the *Itch*: It feels clam-
my, and smells like Soaped Cloaths.

Sweet Purple-Fleabane is Aromatick, *Conyza*
very Acrid and Bitterish. <sup>cærulea a-
cris.</sup>

Comphrey is Clammy, Mealy, and *Consolida*
Mucilaginous; by which it is good in ^{major}.
Sharp Rheums, and *Ulcers of the Lungs* and
Kidneys, and in *Fluxes of Blood*. Out-
wardly it lenifies the Pains of the *Gout*,
especially the Roots Pounded, and applied.
It comes near the Virtue of *Bugloss*.

Bind-weed Greater and Less: The *Convolu-*
Leaves are Mealy, Mucilaginous, and ^{lus major}
Bitterish; and the Root a little Acrid, & ^{minor}.
Slimy, Bitter, and Milky, as all the *Bind-*
weeds are: By its Taste it appears to be a

Purger or Vomitory. The Decoction of the Leaves have a nauseous sick Smell; but it purged not my Dogg. It is a sort of *Bryony*.

Note, The *Bind-weeds* are Milky, like *Scammony*.

Corallina. *Sea-Coralline* tastes Gritty; by its sharp Grittiness, it frets the *Worms*; as *Spar* powdered does, which is also given for them. It has also a strong Earthy-Smell, like *Moss*: And Authors say, That it has a Salt-Taste; but I could not perceive it. Many *Sea-Plants* have that External Saltness from the washing of the Sea-water, and not from a Saltness in their Juyce: From this accidental Saltness, fresh *Coraline* is good for the *Worms*.

Coronopus vulgaris. *Bucks-Horn Plantane* is like ordinary *Plantane*, Watry and Astringent.

Coronopus Ruellii. *Swines-Cresses* is Biting, and of a *Cress*-Taste and Vertue.

Corylus Sylvestris. *Hasel-Tree*: The Catkins, Leaves and Bark are very Rough; and therefore are great Astringents. The *Nuts* are Sweet and Oleous; and loosen the Belly, while fresh.

Stinking

Part II. Spontaneous English Plants. 117

Stinking May-weed is very Biting, Bit-ter, and Fetid; of the same Vertue as *Chamomile*, but stronger; and fitter to make Oyls and Oyntments of, for Pains, Tumors, and *Scrophulæ*. Inwardly it is good for *Hysterick Fits* in distilled Water. *Cotula foetida.*

Marsh-Pennywort: The Leaves are Sweet, Hot, and Sub-aromatick, and smell like *Water-Parfnip*. I found it in *Dorset-Moors*. *Cotyledon aquatica.*

Eye-bright - Cow-Wheat is moderately Bitter and Astringent, and Sub-acrid. It is accounted to be of the nature of common *Eye-bright*, but Hotter. *Cratægo-phrafynes facie.*

Samphire is Sweet, Acrid, and Aromatick; the Leaves have their Saltnefs from the Salt-water; and it is only External; for the Roots have it not, but taste as is above described; by which it is referible to the *Fennil-Clafs*. *Crithmum.*

Wild-Saffron-Flower: The Flower is of a strong Fetid Smell; and of an Hot, Biting, and Mucilaginous Taste: By its Acrid, it is Cordial and Aperitive in the *Jaundice*, and good in *Pestilential Fevers*. By its strong Odor, it is good in Diseases

of the *Womb*, and *Hysterick Passions*. Outwardly, by the Mucilage and Acrid Fetor, it is Anodyne; and inwardly good for *Asthmas*. The Root is Sweet and Slimy; the Green Leaves are Sweet and Acrid, like *Saffron-Flowers*.

Cruciata. *Cross-wort* is a little Hot, Bitterish, and Astringent; it is a Vulnerary, and of the Nature of *Gallium Luteum*, or *Madder*. The Roots are Yellow, Bitter, and Acrid.

Cuscuta. *Dodder* is Bitter and Astringent, and good against the *Itch*, *Black-Jaundice*, and *Obstructions of the Liver and Spleen*.

Cyanus. *Blue-Bottle* tastes Bitterish, Smoaky, Sub-acrid, and Mucilaginous; It is of the Nature of *Jacea*, by its Taste. The Water of the Flowers is good for *Inflammations of the Eyes*; lenifying by the Mucilage, and discussing by its Sub-acrid-Taste.

Cyno-crambe mas & fermina. *Dogs-Mercury* has a dry Taste, and is a little hot: It is vulgarly boyled in Cream for an *Erysipelas*. It has an *Elder-Smell*, and is a crude *Plant*: By the *Elder-Smell* it may be Purging; and has a nauseous Bitter-Taste.

Great

Part II. Spontaneous English Plants. 119

Great Hounds-Tongue: The Taste is Bit-^{Cynoglossum vulgare.} terish and Mucilaginous in the Root, Leaves and Seed; they smell strong like the Excrements of *Mice*; being boyled, they smell like Spirit of *Harts-horn*. It is used as an *Opiate* inwardly; and outwardly applyed as an *Anodyne*, it dissolves all *Tumors*, and the *Scrophulæ*. An Oynment made therewith, and *Hoggs-grease*, heals Wounds like *Tabaco-Oynment*; and is good for the Pains of the *Piles*: It is used most for *Cataplasms*, in *Scrophulous Tumors* outwardly. A strong Decoction of the Leaves and Roots being given to a Dogg, made no sensible alteration: It is good in *Scaldings*.

In *Pills*, the Seeds are used for *Catarrhs*, *Fluxes*, and *Spitting of Blood*. The Roots, by their Odor, hung about the Neck, kill Lice.

Dr. Grew says, The Root is sweet.

D.

D.

Wild Carrot tastes Sweet, Hot, and Daucus. Aromatick in the Seeds, Leaves, and Roots: Therefore it is of the Sweet-Aromatick *Fennel-Class*; and has the same Vertues, being Diuretick in

the *Stone* and *Strangury*, in the *Carminative Colick* externally and internally; good in *Hysterick Fits*: All which Effects it has from its *Aromatick Oyl*, and *Sweet Tastes*.

Dens Leonis.

Dandelyon: The Roots, Leaves, and Milk taste *Waterish*, *Bitter*, and *Smoaky*. It is good in great Quantities of *Choler* in the *Blood*, and in *putrid Fevers*: By its *Bitterishness* it cleanses *Choler*, by *Urine* and the *Choleduct*; by its *Waterishness* it cools the *Blood*. It is for the same reason good in *Consumptions*.

Digitalis Purpurea.

Fox-Gloves: The Flowers, Seeds, and Green-Leaves are *Mucilaginous* and *Bitter*, with *Astringency*; the Roots are *Rough*, and *Nauseously Bitter*; the Seeds are *Bitter-slimy* and *Astringent*. It *Vomits* and *Purges* strongly: The Green-Leaves or Roots are boyld in *Ale*, for the *Falling-Sickness*. The Flowers are good in the *King's-Evil* Sores: They are *Anodyne*, by their *Slime*; and *Cleansing* and *Healing*, by their *Bitter-Astringency*. The Green-Leaves have a strong *Smell*, like *Elder*; which intimates their *Purging Faculty*.

Teasle

Part II. Spontaneous English Plants. 121

Teasle is Bitter and Smoaky, like other *Dipsacus*.
Thistles, both in Leaves and Roots. The
Flowery Heads of it shew it to be a *Car-*
duus.

Oak-Fern is of the Taste and Vertue of *Dryopteris*.
Common *Male-Fern*; Sweetish, Bitterish, ris.
Sub-acrid, and Astringent.

E.

Dwarf-Elder: The Leaves are very Bitter and Slimy, and of a strong Elder-Smell; the Roots are Bitter, Rough, and Roapy, and of an Elder-Smell. It is of the same Vertue and Taste as Common *Elder*. The Bark and Seeds are great Water-Purgers in the *Dropfie* and *Gout*. The Juyce of the Root makes a good purging Syrup, and works as *Buck-thorn* Syrup: The Leaves are us'd in Diet-Drink for the *Dropfie*; and outwardly in Fomentations and Oyntments, for Tumors, Scalds, Burns, *Gout*, and Ulcers.

Vipers-Bugloss is Cool and Mucilaginous, with a little Waterish Bitterness, like *Bugloss*. It is equal in Goodness with
Buzloss,
Echium vulgare.

Bugloss, in Inflammations of the *Blood*, and may be profitable against the Bitings of *Serpents*.

Quære, Whether it has any warm Parts in it, which may be Cordial and *Alexipharmack*, as *Bugloss*. It causes Milk by tempering the hot *Blood*, and by its Waterishness:

*Elæagnus
Cordi.*

Sweet Gaul is very Nauseously Bitter, and a little Astringent, with a strong Aromatick *Smell*. In *Baths* it is good for the *Itch*, and for *Worms* in Oyntments. It will Vomit by its Nauseous Bitterness, as *Carduus*, being Bitter like *Gall*.

*Elapho-
boscum.*

Wild-Parfnip differs but little from the *Garden-Parfnip* in Taste and Vertue.

*Elatine Fo-
lio subro-
tundo.*

Fluellin is Bitter, Sub-acrid, and Astringent: Therefore a good *Vulnerary*.

*Enula
Campana.*

Etecampane-Roots and Leaves are very Acrid and Bitterish, and smell somewhat like *Angelica*. The Roots are good in Oyntments, and *Baths* for the *Itch*; as also for the *Lungs*, *Stomach*, and *Liver*, as a Bitterish Acrid. It is a good *Cephalick*, *Uterine*, and *Diuretick*, by its Volatile Salt; and by the same, it is outwardly

ly useful for the *Sciatica* and *Palsie*; and is a good Antidote against Infectious *Air*. This by its *Taste*, strong *Smell*, and Shape of the *Flowers*, is referible to the same Class as *Flos Solis* and *Marygolds*; but is more Aromatick.

Horse-Tail is a little Astringent; and *Equisetum*. therefore good in all *Fluxes*. *Galen* says, It is Bitterish. It seems referible to the *Grasses*, or else to *Polygonum*.

Common-Heath is very Rough, and Bit- *Erica vul-*
terish; the Flowers have a Sweet *Honey-garis*.
Suckle Smell; by which they are discus-
sing in *Oyls*, and Diuretick; and by the
Astringency, repelling in Inflamed *Eyes*,
and the *Herpes*. Boyl'd in Drink, it is
good for all *Fluxes*, and over-fermented
Blood. It is like *Tamarisk*.

Water-Rocket is of a *Cress-Taste* and *Eruca A-*
Vertue; and is Bitterish and Acrid. *quatica*
vulgaris.

Hedge-Mustard is of a *Cress-Taste* and *Erysimum*
Vertue. In Syrup it is good for the *vulgare*.
Asthma and *Hoarseness*, by its Bitterish
and Acrid *Taste*.

Common-Sea-Holly, or *Eryngo*: The *Eryngium*
Leaves *vulgare*.

Leaves taste Sweet, Aromatick, and Hot; and smell something like *Chervil*: Therefore it is Diuretick, Pectoral, Carminative, and Venereal.

Efula.

Spurge is of a burning and exulcerating Taste and Vertue, like *Tithymals*; and is inwardly Vomitory, and Purgative of Watry Humors by the Acrid Salt.

Euonymus vulgaris.

Frickwood: The Seeds are Nauseously Bitter and Astringent; therefore may Purge. The Bark is Slimy and Bitterish. My Dogg eat Ten of the Seeds in Butter, and drank the Decoction of the Leaves in Broth after them; and yet was bound Two Days after. It has an *Elder-Smell* in the Leaves; and the *Wood* is like *Elder*: The Leaves are Sub-acid, of a Bitter *Elder-Taste*. The Leaves and Berries look Red, as many Acid Plants do.

Eupatorium Canabinum.

Common Hemp-Agrimony: The Flowers and Leaves are very Bitter, and a little Acrid. The Roots taste like *Hemp*: The Flowers and Leaves smell Strong and Aromatick. The Roots may Vomit by their Bitter and Acrid Sliminess. The Leaves are *Hepatick*.

Eye-

Eye-Bright is Bitterish-Astringent, a good Vulnerary, and *Eye-Medicine*. *Euphrasia vulgaris*.

F.

F.

BEANS: The Leaves have a Bitter-Faba vulgaris Sweet *Pea*-Taste. The *Bean* has the same Taste; but the Skin of it is Astringent. The Flowers smell Sweet, and the distill'd Water takes away *Freckles*. Old *Beans* in Flowre or Meal are very discussing in *Tumors* of the *Breasts*, and *Testicles*. A Water is distill'd from *Bean-Stalks* for the *Stone*, which, by its Sweetness and Bitterness, lenifies and cleanses the *Kidneys*.

The *Beach-Tree*: The Bark which I tasted in *September*, was Bitterish-Astringent, and the Leaves Rough. The Vertue of it is the same with the *Oak*, viz. Astringent. The Fruit I could not find this Year; but I am told, That it is Sweet and Rough.

Buck-Wheat: The Seeds taste Mealy, *Fegopy*-and the Leaves Mucilaginous. It's good rum, for Food, and *Pultisses*.

Common.

Filipendula. *Common-Dracwort*: The Root is Bitterish, (*Quære*, Whether Sweetish?) Astringent, Warm, and very Aromatick; of a *Burnet-Smell*, or like *Meadow-Sweet*. It is good in all *Fluxes*, and in the *Stone*, by its Bitterish and Sub-acrid Astringency.

Filix Fœmina. *Female-Fern*: The Root and Leaves are Bitterish, and Mucilaginous; and good for *Burns*, by their Mucilage: And therefore, are of a different Nature from the *Male*, and other *Ferns*.

Filix Mas & Osmunda. *Male-Fern*: The Leaves taste Rough, the Roots Bitterish and Rough; and smell like *Orris*. The Leaves of all *Ferns* rubb'd, smell like *Tallow*. The Roots, by their Bitterish-Roughness, are *Splenetic*, and good *Vulneraries*, and *Openers* of Obstructions by their Aromatick Bitterness, in *Rickets*, *Worms*, and in the *Stone*.

Fragaria. *Strawberries*: The Leaves are Mucilaginous, and very little Bitter; the Roots are Bitterish, Sub-acrid, and Astringent. The Leaves are good in *Mouth-Waters*, and in the *Stone*: The Roots are also *Vulnerary*, like *Cinquesoyl*; and of the same Class. The Fruit is Sweet, Sub-acid,

Part II. Spontaneous English Plants. 127

acid-Vinous, and Fragrant in its Flavor; therefore Cooling and Cordial: and a distill'd Water is made of it.

Note, That the Leaves of Astringent Plants, which bear a Pulpy Fruit, have a Slime in them.

The *Ash-Tree*: The Bark is Bitter, A- Fraxinus. stringent, and of a *Laurel*-Bitter Taste: The Seeds are Bitter, Astringent, and Acrid; and so are the Flowers and Buds, when made into Conserve for opening the *Spleen* and *Liver*, and for the *Scurvy* and *Dropsie*.

The Bark is a good Vulnerary, and Antifebrifick by its Bitter Astringency. The Seeds are a good Diuretick in the *Stone*; and I think, they much resemble the Taste of *Jesuits Powder*. They sweat in *Quartanes*, in which I have us'd them. The Wood of *Ash*, by its Taste, may be us'd instead of *Guaiacum*; it has a Bitter and Acrid, to cause Sweat.

Fumitory is Bitterish, Watry, and Smoak- Fumaria ky: It is good against *Cholerick Blood* in vulgaris. Juyce and Syrup; is *Diuretick*; and in distill'd Water cleanses the Face. It belongs to the *Pea-Tribe*. It is good for the *Itch* in Oynments.

Climb-

**Fumaria
cum Ca-
preolis.**

Climbing-Fumitory: This has a Watry Bitterness, and is also Acrid. This is of the same Tribe and Vertue with common *Fumitory*; but more manifestly Acrid.

**Fungus E-
sculentus.**

The *Common-Mushrome*: The whole Substance is Mucilaginous. The Smell is very Earthy; therefore outwardly a very cooling Anodyne.

Quære, Whether *Mushromes* do not spring from the putrefied Mucilaginous *Parenchyma* of other *Plants*, and the Fibrous Parts growing into Length?

The noxious *Mushromes* cause a Strangulation in the *Throat*, for which Oyl and Vomiting are necessary; or else a *Cholera Morbus*, in which case *Hens-Dung* may be good.

**Fungus Ar-
borum pu-
trescenti-
um.**

Wood-Mushrome: This smells like Rotten *Wood*, and is Slimy and Mucilaginous; and evidently arises from Rotten *Wood*, whose putrefied Bladders, with some Fibrous Parts, spring into a *Mushrome*.

**Fungus
Sambuci-
nus.**

Jews-Ears are very Mucilaginous; by which they relax and cool Inflammations in the *Throat*; and they have a strong Earthy-

Earthy-Smell; by which they may discuss Glandulous Tumors. It is not good to swallow any of the Decoction of them.

G.

G.

Hedge-Nettle: The Taste of the Galeopsis. Leaves is Bitterish and Aromatick. It stinks at first like Dead-Nettle, in the Leaves; but has an Aromatick Turpentine in the Flowers; by which it is a Vulnerary, as well as by its Bitterish-Astringency. It is a great Discusser, by its strong Smell. It is good in the Scrophula, and other Tumors. Inwardly it is an excellent Vulnerary; and outwardly good in Oyntments. By the Smell it is a Dead-Nettle or Lamium.

Common Ladies-Bedstraw: The Taste Gallium is Bitterish and Astringent: The Flowers Luteum. are of a Fragrant Sweetish Smell. It is plainly, by the yellow Root, a Madder; being Bitter, Acrid, and a little Astringent: and therefore it is an error to think it can coagulate Milk; but it is rather mixt with the Rennet, to preserve the Cheese from Corruption, or to give it a Flavor.

K

Gentian

Gentian yields an Acid, as well as *Gallium*, in Distillation: and yet none will think it fit to coagulate Milk: Which Mr. Ray intimates to be the effect of *Gallium*.

Genista.

Common-Broom: The Leaves and Stalks have a Sweet-Bitter *Pea*-taste: The Seeds are like *Pease*, a little Bitter. All the parts of it are good in the *Scurvey*, *Jaundice*, and *Dropfie*: They keep the Body Soluble. The Flowers and Leaves resemble *Pease*: so that *Broom* belongs to that Class. A distilled Water of the Flowers, is good in the *Stone*, by their Mucilage and Bitterness; by which Taste the Flowers vomit.

Genista
Spinosa.

Furze: The Flowers smell like *Rancid Oyl*, and are Mucilaginous: The Root and Bark have a Sweet, Bitterish *Pea*-taste.

Genistella
Tinctoria.

Yellows hath a Bitterish, Mucilaginous *Pea*-taste. The Flowers smell like *Oyl of Linseed*, as most of the *Pea*-taste do. The Root is strong tasted, like *Rancid Oyl*: It is fit for Oyntments.

Genistella
Aculeata.

Petty-whin has a Bitter *Pea*-taste.

Centaury-

Part II. Spontaneous English Plants. 131

Centauryleav'd Gentian tastes in the *Gentiana* Leaves Mucilaginous and Bitter ; and smells strong like *Elder*. *nella fugax minor.*

Herb-Robert tastes Bitterish and Astringent ; and smells strong of *Turpentine* : It is an excellent Vulnerary inwardly and outwardly. *Geranium Robertianum.*

The Juyce of it is mixt with *Honey*, for *Cankers* of the Mouth, which it cures very well.

Crow-foot Cranes-Bill smells of *Turpentine*, like *Herb-Robert*. The Root tastes Bitterish and Rough, and feels Clammy. *Geranium Batrachoides.*

Musk Cranes-Bill smells of *Musk* ; feels clammy, as other *Turpentine Plants* do : and is also Bitterish and Rough. *Geranium Moschatum.*

Dove-foot Cranes-Bill smells of *Musk* ; and is Rough in Taste. *Geranium Columbinum.*

It may be observed, that all the *Cranes-Bills* are Astringent ; the *Musky* are least Bitter, the *Turpentine* most ; on which the Bitterness depends. And from hence it may be conjectured, that a small degree of *Turpentine* produces the *Musky-Smell* ; for the *Geraniums* are all of a kind

and Vertue, though the Smell distinguishes them into the *Musky*, or *Turpentine Plants*: And there are other *Geraniums*, which want either Smell; as *Geranium inodorum*, which is Astringent.

The *Turpentine Crane-Bills* are Diuretick and Pectoral: and by the Bitterness and Astringency, they are the most exact Vulneraries; Cleansing and Healing in Wounds and Ulcers.

Gladiolus
luteus Pa-
lustris, five
Iris lutea
Palustris.

Water-Flagg, or Water Flower-de-luce:

The Roots and Flaggs are Rough, Astringent, and very Burning, like *Orris*. The Root is successfully used inwardly, to prevent an *Hydrophobia*, with the Root of *Devils-Bit*. And they are boyled in Milk, and given for a Week to them that are Bitten by a Mad Dogg.

The *Yellow-Flowers* are Mucilaginous, and burn the Mouth; and therefore are an *Orris*. The Astringency of the Root hinders the Fermentative Vertue of the Animal Venome from producing a *Fever* in the *Blood*, and probably dulls the Activity of the Venome, which consists in a Volatile Salt; and the Acrimony preserves the *Blood* from Coagulation.

Wood

Part II. Spontaneous English Plants. 133

Woad is Astringent, Bitterish and Acrid. *Glaſtum Indigo* is of the ſame Taſte and Vertue. *Sativum*. *Woad* abounds in a Volatile Salt, and is a good Hepatick in the *Jaundice*. *Wedelius* makes a Volatile Salt of it without Fire. It belongs to the Crefs-Taſtes, by its Cods and Taſte; and may be placed with *Chelidonium majus Luteola*. The Yellow-Flowers ſmell like *Creffes*.

Wild Liquoriſh-Vetch is much more Glauſe ſweet in the Leaf than common *Liquoriſh*. *Vulgaris*.

Common Liquoriſh : The Leaves are Bitteriſh and Rough; and feel clammy, like Oyly Mucilaginous Plants. The Roots have a very ſweet Taſte, and a little Mucilaginous. This belongs to the Sweet Pea-Taſte. It is a Lenient, Nephritick, and Pulmonick; good in Acrimony of *Urine*. The Juyce Inſpiſſate is good in the ſame Diſeaſes. It is the Mucilage in the *Liquoriſh*, that ſtops the violent motion of the Corroſive Salts in *Catarrhs*, and covers the *Membranes* of the *Throat* with a Slime. And alſo the ſenſible *Membranes* are ſaturated by its Luſciouſneſs : So that the Corroſive *Rheum* is not perceived.

Glycyrrhiza vulgaris

Gnapha-
lium.

Cud-weed smells somewhat Aromatick, like *Wormwood*: It tastes Bitterish, Dry, Astringent, and a little Hot. It is Vulnerary, and good in all *Fluxes*. It is Stomachick. It renews the Cud, being given to Beasts, because it is like *Wormwood* in Effects and Taste.

Gramen
Caninum.

Quich, or *Couch-Grass*: The Root is Watrish and Sweetish: It cools by the Taste, and lenifies the sharpness of *Urine*; but where the Excellency therein for *Worms* lies, I know not, nor wherein its opening Faculty resides.

Gramen
Parnassi.

Parnassus-Grass is Rough and Bitterish, a Vulnerary and Diuretick, like white and yellow *Saxifrage*.

Gratiola
angusti-
folia.

Small Hedge-Hyssop is nauseously Sweet, Bitter and Acrid: It is therefore a strong Purger.

H.

H.

Ivy-Tree: The Bark has a Rancid Hedera Aro-
 matick taste, Biting, and of a strong boreal
 Scent. It may be used in *Baths*;
 but it is improper for the *Rickets*, being
 not fit for inward Use. The *Gum* has an
 unpleasant Offensive Smell, therefore an
 Enemy to the *Nerves*: It is of a Burning
 Caustick Taste. The Leaves are Bitter,
 and of an unpleasant Balsam-Smell; by
 which they draw *Issues*, and Slime out of
Gouty Feet. The Leaves boyled yield a
 good Mucilage; which being boyled
 with *Diapalma*, makes a good Plaster for
Issues. The Leaves may be used in Bal-
 sams outwardly: and are good for *Burns*,
 by the Mucilage. The ripe *Ivy-Berries* are
 Sweet, Bitterish, Aromatick, Slimy, and
 very Acrid.

I refer the *Ivy-Tree* to the Fetid *Tur-
 pentine-Class*.

Ground-Ivy is Rough, Bitterish, of a Hedera
 strong Balsamick, and Resinous, but more Terrestri-
 ally of a *Dead-Nettle* Smell; which is
 very apparent by its Infusion in Ale.
Gill-Drinks are Famous for the *Scurvy*,
 and *Rheums* and *Ulcers* in the *Kidneys*; for

which it's also used in Syrup, Juyce, Powder, and distilled Water. The Juyce is outwardly used for the *Pin* and *Web* in the *Eyes*. It is put into Oyntments for *Burns*, as a good Vulnerary by its Bitter-Astringency. The Juyce is good for the *Worms*, and used as an *Errhine* in Cephalick Distempers.

Hederula Aquatica. *Water-Ivy* is of a burning Taste, like other *Ranunculus's*.

Helleborus niger. *Black-Hellebore*: The Root is Bitterish, and very Acrid, of an ill Smell, and is a strong Purgative: It caused a Pain in my *Tongue* to the *Throat*; the same it may cause in the *Stomach*. In the Shops, the black Root tasted Bitter, Sweet, and Acrid. The Smell of the Root is very Offensive. The Acrimony is an useful Corrector of the Acid in Melancholick Constitutions. An Acrid joyned with Bitter heats more than a simple strong Acrid; and the Taste lasts longer on the Pallat.

Helleboraster maximus. *Bears-foot*; the Leaves taste nauseously Bitter and Acrid, and smell like *Elder*. The Black Root smells strong, and is of the same taste.

Three

Three Spoonfuls of the Juyce of the Leaves pounded with White-wine, Vomits and Purges strongly : It is used for the *Worms*.

Herb-Paris, or *One Berry* : The Leaves *Herba Paris* have a *Solanum* Smell ; the Berries are ris. sweet and nauseous ; and therefore is a Narcotick, like the *Night-Shades*.

Hawk-weed is very Bitter, like *Scabious* *Hieracium* or *Dandelion*, but more strong ; it cleanses the *Stomach*, is Diuretick, and an opening Hepatick. It is of the same kind with the Smoaky Bitters. By its Bitter-Astringency it is accounted a *Vulnerary*.

Alifanders is like the *Parsly-kind*, in *Hippocli-* Taste and Verrue : It is Sweet, Hot, A- num. romatick and Bitterish.

Stitch-wort : The Smell of the Leaves *Holosteum*, rubbed is crude : Its Taste is Sweet five *Caryo-* and Grassy ; and is of the *Lychnis-Tribe*. *phyllus* *Holosteus*.

Barley tastes Sweet and Slimy, as all *Hordeum*. Esculents do ; the Meal is used in ripening *Pultesses*.

Mault has a Sweet Taste, which it gives to new Drink.

Wild-

Horminum Sylvestre. *Wild-Clary* is of a like Taste and Smell with the *Garden-Clary*: The Seeds are Mucilaginous; and by that means they take the Dust out of the *Eyes*. It is referible to the Class of *Lamiums*.

Hyacinthus Anglicus. *Hare-Bells* are Mucilaginous in the Roots and Leaves, and have a *Lily-Smell* in the Flowers: They are of that Tribe; and have the same Vertue. The *Garden Hyacinths* have the same Taste and Vertue.

Hyoscyamus albus. *Henbane*: The Roots are sweet like *Parfnips*: The Leaves smell Offensively, Oyly, Strong, and Narcotick. Outwardly the Leaves are Anodyne, and Emollient in all Pains and Inflammations. The Seed is used in *Spitting of Blood*; it is Mucilaginous, and Narcotick in Smell: It is used in *Epilepsies*, to the quantity of a Scruple, for many Nights together; and in the Morning give a Drachm of *Rue* powdered for a Month. Out of the Seed is made an Oyl by Expression.

I gave to a *Grey-hound* half an ounce of *Solanum Lethale* Root powdered, betwixt two pieces of Bread and Butter; and at least an Ounce more boyled, to which I put an equal quantity of Milk, to make him

him take it; which produced no sign of Sleepiness, nor any Evacuation. The next day I gave him a large quantity of *Henbane-Leaves* and *Roots* in Broth, without any alteration. The third day after, I gave him a great quantity of *Hemlock* boyled; and repeated a second Dose; without any considerable alteration. Two days afterwards I gave him a Cake of *Nux Vomica*, which made him dosie, and gave him Convulsions, and shortness of Breath; but he recovered well again. The *Nux Vomica* smells like *Opium*, and has the same Effect. Afterwards I gave him a great quantity of *Hounds-Tongue-Leaves* and *Roots* boyled; but without any alteration: So strong are the Spirits of Doggs, in resisting Opiates.

I Vomited these Opiates off by *Bryony-Juyce*, given to him: and some days after, I gave him Thirty Berries of *Solanum Lignosum*, with which he presently run Mad and Dyed; and I found the same in his Stomach.

Saint John's-wort: The Leaves taste Hyperic-Bitter and Astringent; and are of a Tur-cum.
pentine-Smell: It is therefore Vulnerary and Diuretick, as *Turpentine*. The Flowers colour the Fingers Purple, and yield a
 Bal-

Balsamick Tincture, with Spirit of Wine. It is given in *Melancholy*; but is fitter for the *Stone*. The Roots taste Bitter and Astringent. An Oyly Balsam is made of the Flowers, by Infusion in Oyl.

In *St. John's-wort* Powdered there remains only the Bitter-Astringency, and the *Turpentine* is lost. By the Bitter-Astringency it is good for *Agues*. This, and *Ascyrum*, and *Androsimum*, have a Laxative Quality by their Turpentine; and as Diureticks, are good for the *Sciatica*.

An excellent Balsamick Oyl may be drawn from the Seeds by Expression.

I.

I.

Jacea.

K *Nap-weed* is very Bitter, Astringent, and Smoaky: It has the Vertues of *Scabious*, and is of the same Class. Outwardly it is Vulnerary, and good for *Scabs*, *Itch*, and *Ulcers*; the Root is Milky.

Jacobaea.

Ragwort tastes a little Bitter, Rough, and Hot: It smells Sub-acid, and a little like *Erigerum*; and belongs to the same Class, or rather to the *Hawk-weeds*.

The

The *Walnut-Tree*: The Bark of the *Juglans*.
Walnut-Tree is Bitter, Biting, and Rough.
 When it is dry, it looks black within;
 and for that reason, and its Purgative Faculty,
 it is not like *Jesuits-Bark*. The Green Husk of the
Walnuts taste very Bitter, and very Acrid;
 by which, in distilled Water, it is good for the
Head and *Worms*: The tender first Sprouts of the
 Leaves are kept dry, and boyled in Milk,
 to Purge Children for the *Worms*. And the Green
Walnuts preserved, Purge. The Bark and *Iuli* Vomit.
 The Infusion of *Walnut-Leaves* drives *Worms* out of the
 Ground, if sprinkled thereon. The *Walnut-Kernel*
 is of an Oyly Nut Sweet-Taste. The Oyl is good for the
Stone.

Rushes: The Roots taste Rough *Juncus*
 and Brackish, like *Steel*, from the Boggs *vulgaris*.
 they grow in. The Leaves are Rough,
 Raw, and Moorish, and smell Raw.

The *Flowering-Rush* has the same Taste *Juncus flo-*
 and Vertue. *ridus, seu*

Juniper-Tree: The Wood, Leaves and *gladiolus*
 Berries, smell of an Aromatick-*Turpentine*, *palustris*.
 and taste Bitterish and Astringent; are *Juniperus*.
Diuretick, Vulnerary, Carminative, Ute-
rine,

rine, and Antiscorbutick. The Berries are used in Diet-Drink; the Spirit and Oyl of the Berries are good in the *Stone*. The Wood may be used instead of *Sassafras*-Wood. The Ashes are good for the *Dropsie* in *Lixiviums*. *Juniper-Berries* have a Sweet, Bitterish, and Aromatick Taste; and are therefore Pectoral and Diuretick, as *Sassafras*.

Instead of the Bark, which is but small in the *Juniper-Tree*, add the Berries with the Wood, in drying Drinks, for *Catarrhs*.

L.

L.

Lactuca
Agnina.

L *Ambs-Lettuce*: The Leaves taste Cool, Bitterish, and Slimy, like ordinary *Lettuce*. It's fit for *Sallets*.

Lactuca
Sylvestris.

Wild-Lettuce smells strong, like *Opium*; tastes Mucilaginous and Bitter: It is of a Narcotick Vertue. It Purges, as an *Opiate*; and makes a good Oyntment for *Burns* and *Inflammations*.

Narrow-

Part II. Spontaneous English Plants. 143

Narrow-Leav'd All-heal: It smells very Ladanum
Fragrant, like a sweet Gum: It tastes a Segetum,
little Mucilaginous, Rough, and Bitterish. five side-
It is an excellent Vulnerary. It belongs ritis flore
to the Species of *Sideritis*, by the Figure; rubro.
but this has more plainly *Turpentine* in it.

Hares-Foot tastes a little Dry and A-Lagopus
stringent; and in that lies its Vertue for vulgaris.
stopping *Fluxes*, repelling, and of being
Antifebrifick.

Arch-angel, or *Dead-Nettle*: The Flow- Lamium
ers and Leaves are Bitterish, Mucilaginous, Flore Albo.
and Sub-Astringent; with a strong Fetid
smell.

Red Arch-angel smells plainly of Tur- Flore Ru-
pentine; and tastes Bitterish, Sub-Astrin- bro.
gent, and a little Slimy.

Lamium, with a *Yellow-Flower* has the Flore
same Taste and Smell as *Lamium flore albo*. Flavo.
All *Lamiums* are Vulneraries, and discus-
sing *Kings-Evil-Tumors*, by their strong
Smell.

Henbit smells and tastes like *Ground- Lamium*
Ivy; which is a *Lamium*: as is also *Be- folio cau-*
tony, by its Smell. lem am-

Nipple- biente.

Lampfana. *Nipple-wort* : The Leaves are a little Bitter and Astringent ; and therefore it is used in Oyntments for the *Nipples*. The Root is Bitterish, Rough, and Acrid, like the *Cresses* ; and it is eaten boy'd. It has a Bitter Milk ; and by that, and the Flowers and Seeds, it should be a *Hawk-weed*.

Lapathum acutum. *Sharp-pointed Dock* : The Roots look Yellow, like *Rhubarb*, and taste Nauseously Bitter and Astringent, with a little Heat and Sliminess. It is used in Diet-drinks, as Antiscorbutick, Laxative, and Hepatick.

Lapathum vulgare fol. obtuso. *Common Dock* is of the same Vertue as the former, but seems stronger : It is Bitter, Slimy, Astringent, and more Acrid ; by which it is Purgative ; and therefore the best for use.

English Rhubarb tastes of a *Dock-Bitterness*, and is very Rough and Acrid, like common *Dock-Root*.

Hydro-Lapathum. *Water-Dock* : The Root is very Rough, and but little Bitter, and not Acrid. It is used, by mistake, for the other. This is best outwardly for the *Itch*, as an Astringent ; and in *Spitting of Blood*. The Root is more Red than other Docks, and seems to be a *Sorrel*. Red-

Red-Dock: The Leaves taste Rough; and the Red Stalks, Acid; the Root, Bitterish, Rough, and Nauseous, like other *Docks*. The Seeds of the *Docks* are Astringent, and good for *Loosnesses*, and *Fluxes of Blood*. The Leaves of *Docks* also taste Acid and Astringent, or Rough: They are us'd in Baths for the *Itch*, and smell Crude and Acid.

The *Red Dock-Root* is (like the Yellow Roots of other *Docks*) of a purging Faculty.

Pease-Everlasting has a rough Taste. *Lathyrus major perennis.*

Spurge-Lawrel has the burning Taste of *Laureola*. *Spurge*; and purges *Hydropical* Humors violently. The Leaves are also Slimy.

Ducks-meat is Crude and Watry, and good for outward Inflammations: Inwardly it may cure inflamed *Cholerick Blood*; but not the *Jaundice* proceeding from Obstruction; as Authors affirm. *Lens Palustris.*

Dittander tastes very Acrid, Exulcerating, and Bitterish, like *Radish*, but stronger: The Roots therefore provoke the Birth, and the Plant is *Antiscorbutick*. It is us'd for Pains of the *Teeth* and *Hips*. *Lepidium latifolium, seu Piperitis.*

It belongs to the *Cresses*, by its Taste and Smell; which is thought to resemble *Pepper*, as the Name imports.

Leucoium *Wall-Gilliflowers* are Mucilaginous and
Luteum Biting; therefore an Oyntment of the
five Cheiri. Flowers is us'd for the *Gout*. The Flow-
 ers are also us'd in Cordial Waters. *Leu-*
coium, by its Face and Seeds, belongs to the
Cress-Class. The Seeds are Bitterish, and
 very Acrid. The Conserve of the Flowers
 is a good *Antiscorbutick* and *Cephalick*.

Lichen five *Ground-Liverwort*, being rubbed, smells
Hepatica of *Turpentine*, and tastes Mucilaginous, and
vulgaris. a little Biting, like *Turpentine*: It is there-
 fore a good Diuretick in the *Stone* and
Dropsie, and Antiscorbutick. Outwardly
 it is good for *Tetters*, *Ulcers*, *Wounds*, and
Itch; being Bitterish and Sub-Astringent,
 as other *Turpentine* Plants.

Lichen ar- *Tree-Lungwort* is Bitterish and Astringent;
borum Pul- gent; good in *Fluxes*, and to stop *Coughs*,
monarius. in Syrup. Boyl one handful in a Pint of
 Beer to half.

Lichen ci- *Ash-colour'd Ground-Liverwort* tastes
nercus ter- Sweetish and Rough, smells Earthy like
restris. *Mosses*; and is us'd for *Coughs*.

Privet:

Privet: The Leaves smell like *Lawrel* *Ligustrum*, when bruis'd, and the Vertue of it seems to be the same as of *Lawrel*; which may be an outward Vulnerary, for that the Leaves taste Bitter and Astringent. The White Flowers smell Sweet. The black Berries have a purplish Juyce within them. The Leaves may be good for *Ulcers of the Mouth*.

Lily of the Valley: The Flowers taste *Lilium* very Bitter and Biting; the Roots are *Convallium* Mucilaginous. The Flowers smell very Fragrant, and are therefore Cordial; and by being Bitterish, Acrid, and Aromatick, are Cephalick in *Apoplexies*, *Palsies*, *Vertigoes*, and *Epilepsies*: And the Flowers powder'd, make a grateful strong Sneezing-Powder.

The distill'd Water, and a Conserve of the Flowers are most us'd. The Roots are very Mucilaginous; and by them it is of the *Lily-kind*.

Toad-Flax: The Green-Leaves are Bit- *Linaria lu-* terish, Mucilaginous, and Sub-acrid, and tea vulga- of an *Elder-Smell*; the Flowers are like *ris*. *Snap-Dragon*, Sweet, Bitterish, and Mucilaginous. It is an Anodyne for the *He-* *morrhoids*, in Oyntment of the Flowers.

It is not fit for inward Use; but fit outwardly for *Cataplasms*. The *Water* may cool the Redness of the *Eyes*.

Linum Sativum. *Common-Flax*: The Seed is very Oily and Mucilaginous, and of a Rancid Smell. The Expressed Oyl is Anodyne and Emollient in *Clysters*, and in *Pleuretick Coughs*. Outwardly it discusses and mollifies *Tumors*. Green *Flax* is Bitterish and Mucilaginous.

Lithospermum sive Miliun Solis. *Gromwell*: The Root and Seeds taste Sweet and Mucilaginous. The Seed-Cases are Stony, by which they are *Lithontripectick*. The Leaves and Roots of *Gromwell* smell like *Hounds-Tongue*. There is a little Heat in the Taste; but I cannot find the *Sudorifick* Quality. It seems to be an *Opiate*, like *Hounds-Tongue*.

Lonchitis aspera. *Rough Spleenwort*: The Roots and Leaves taste Rough and Sweet, like the *Ferns*; and are of the same Vertue. It has no Sliminess. It is Splenetick, Astringent, and Vulnerary.

Lupulus. *Hops*: They are very Bitter and Acrid, and of a strong *Lamium*-Smell. They are Diuretick, Hepatick, and Sudorifick.
Out-

Part II. Spontaneous English Plants. 149

Outwardly they discuss *Tumors*, and cure the *Itch*. The Root has a Thick, Rough, and a little Acrid, and Bitterish Bark; by which it seems to be Splenetick, Diuretick, and Sudorifick. Take a Pound of Roots, and boyl them in a Gallon of Water to half or three Parts, adding *Parsley-Roots* and *Raisins*; give half a Pint of it to Sweat, as you give *Sarsaparilla*, in the *Itch*, and *Lues Venerea*.

Diers-Weed: The Root and Leaves *Luteola* are Mucilaginous, and very hot on the Tongue: It is of a strong offensive Smell. Outwardly it is Anodyne and Emollient: If inwardly us'd, it is Diuretick. It may be of the *Cress*-Taste.

Wild White and *Red Campians* are of a *Lychnis* crude Taste, Watrish, and smell crude; *Sylvestris* therefore are good for *Inflammations*, or *flore Albo*, *Hemorrhages* outwardly. There is also a *Rubro*. Sweetness in the Taste of *Lychnis*-Root.

Purple-Spiked Willow-Herb is Watrish, *Lyfimachi*-Mucilaginous, and a little Hot; but of a *Purpurea* crude Smell. Quære, Whether it be a *La-Spicata*.
mium?

Coddred-Willow-Herb is Mucilaginous, *Lyfimachi*-Hot, a *Siliquosa*.

Hot, and Acrid; therefore it is a good Diuretick. It seems to be a *Leucoium*, by the Cods, Mucilage, and Acrimony, and by the Flower. It is a little Bitterish; and of the Vertue of *Leucoiums*, Diuretick.

Lyfimachi- *Hooded-Willow-Herb* is very Bitter and
a Galericu- Acrid, and a kind of *Gratiola*; and there-
lata. fore may be Purging.

Lyfimachi- *Tellow-Willow-Herb* is Mucilaginous,
a lutea vul- and a little Biting; and of the Vertue of
garis & the *Codded*.
Hortenfis.

M.

M.

Malva vul-
garis.

Ordinary *Mallows*: The Leaves, Flowers, and Roots are Watry and Mucilaginous; and therefore Emollient and Anodyne externally: Inwardly the Conserve of the Flowers, and distill'd Water with Syrup of *Violets*, are good for the *Stone* and *Cough*. The Seeds are useful; and the Stalks, cook'd like *Asparagus*, are scarce distinguishable from it.

Out of *Mallow-Root*, *Barley-Meal*, and Oyl boyld in Water, is made a good *Pul-
tels* for *Inflammations*.

The

The *Crab-Tree*: The Bark is Sweet-Malus Syl-
ish, Bitter, and Styptick. The Juyce of ^{vestris.}
the *Crab* is Bitterish, Sowre, and very
Rough. It cools outward *Inflammations*
with *Barm*. *Verjuice* is inwardly good in
Fevers, and *Cholerick Loofnesses*, with Su-
gar or Milk. The *Crab-Bark* is less Sweet
than the *Apple*.

White Horehound is very Bitter, and of Marrubi-
a strong *Lamium-Smell*, and a little Plea-um Album.
fant. It is a good opening *Hepatick* in
the *Jaundice*, and a Cleansing *Pectoral* in
Water, and Syrup of the Juyce; especi-
ally in an *Asthma*: And in Juyce I have
us'd it. It is outwardly good in Oynt-
ments for sordid *Ulcers*, and in Baths.
By the *Fætor* it may be a good *Hyste-*
rick.

Water-Horehound is moderately Bitter Marrubi-
and Astringent: The Smell is neither um Aquati-
strong, nor unpleasant; but like *Sideritis*, cum.
and therefore Vulnerary.

Common Melilote tastes Slimy, Bitter, Melilotus
and Biting, or Acrid; and is therefore vulgaris.

Anodyne, and discussing by its Acrimony.
In the *Emplaster* it is most us'd. It smells,
when rubb'd, like the *Pea-kind*. By the

Taste it should be Purgative; which is not yet tryed.

Mentha *Water-Mint* is of a Bitterish, Hot, Pun-
Aquatica gent, and Aromatick Taste, and smells
 five Sifym- like *Calamint* or *Penny-Royal*. It is a good
brium. Diuretick, Antiscorbutick, and Carmina-
 tive. It has some Astringency; by which
 it strengthens the *Stomach*.

Menta- *Horse-Mint* has a Bitterish, Biting, *Mint-*
strum A- Taste, with a strong *Mint-Smell*. It is of
quaticum. the same Vertue as common *Mint*.

Millefoli- *Common Millefoile* or *Tarrow*: The
um vulga- Roots are very Acrid, and Blistering the
re. *Mouth*. The Flowers and Leaves are Bit-
 terish and Hot, without any considerable
 Astringency; and therefore improperly
 given for *Hemorrhages*. It smells like
Southern-wood in the Flowry Part, or like
Chamemel-Flowers: And therefore is to
 be reckon'd amongst *Cephalicks*, by the
 Bitterish Acrimony, and Aromatick Smell.
 The first Sprouts of *Millefoile* are very A-
 crid.

Mollugo *Small Mountain Bastard-Madder* is Bit-
Montana. ter and Acrid, like *Madder*.

Devils-

Devils-Bit : The Leaves are very Bit-Morsus Diter, like *Scabious* ; the Root is Bitterish, aboli. Biting, and Burning in the *Throat* ; and therefore accounted *Alexipharmack*, and may be us'd instead of *Contrayerva* ; for it is accounted good against the Bitings of *Mad Doggs*, with *Flagg-Root* boyl'd in Milk. The Leaves are of the same Vertue as *Scabious*, Cleansing, Vulnerary, Pectoral, and Heparick.

The *Moss of an Oak-Pale* smells Strong Muscus ex and Earthy, flies quick up into the *Nose*, ligno Quercino. and causes Sneezing, like Volatile Salts ; and has somewhat of an *Orris-Smell*, like the *Ferns*. It tastes Bitterish, Sweet, and Rough, and a little Hot ; by which it is Pectoral, and expectorating the thick *Phlegm*, and strengthening the *Glandules* : By the Astringency it hinders the Defluxion of thin *Rheum*. This is the *Basis* of sweet *Pulville-Powders*, vid. *Zwelfer*. Of *Tabaco*, *Primrose-Roots*, and this *Moss*, I made a Sneezing-Powder.

St. Winifred's Moss, (brought me from Muscus O. Holy-Well) if rubb'd, it smells like *Orris*, doratus. as some *Ferns* do ; and tastes like *Orris*, Bitterish, Hot, and Aromatick : But by the Stalks in it, it is rather a *Fern*, than a *Moss*. The

Muscus The *Moss of Trees* differs according to
Arboreus the Taste of *Trees*: The *Oak-Moss* tastes
Ramosus. Rough and Bitterish, and smells Strong,
 Earthy, and Acrid; especially being pow-
 der'd. Boyl it in Beer for *Coughs*, or in
 Thea.

Muscus The *Moss of Alder* has a Bitterness and
Alni. Roughness, like *Alder*, with the Scent
 above-mention'd: It tastes a little Brack-
 ish, like *Steel*.

Muscus ex *Pear-Tree Moss* has a Rough, *Steely*-
Pyro. Taste; and smells Strong, Earthy, and
 Acrid. I tasted these *Mosses* in the Win-
 ter, when the Rain might lodge in the
 Moss; but how they come to taste like
 Steel, I know not.

I cannot but take notice, that the *Mistle-
 Toe* has the like Taste as *Mosses*, Bitterish,
 Acrid, and Astringent; and branches like
Tree-Mosses; and therefore is bred out of
 a like Juyce of the *Tree*.

Muscus ex *Apple-Tree-Moss* tastes Rough, Bitter-
Malo. ish, and Sub-acrid; and is of the same
 pungent Scent.

Muscus ex *Moss of a Man's Skull* is like common
Cranio. *Moss*, of an Earthy-Smell, and of a Rough
 Earthy-

Earthy-Taste. It is much commended for stopping of *Hemorrhages*: Applied to the *Nose*, it may help the Congealing of the *Blood*, and work as an Astringent, and offend the Spirits by the Earthy-Smell: And it may disturb the Fanciful, by holding it in the Hand; and by occasioning some Terror, may stop Bleeding.

Firr-Tree-Moss tastes and smells like *Muscus ex Abiete*.
the *Oak-Moss*.

Cup-Moss is not very Rough; it seems *Muscus* a little Slimy. I tasted it in the Shops, *Pyxidatus*. and expected an Acrimony in it. It is of the Vertue of the *Lichen Hepaticâ facie*. It is us'd for an Astringent in *Coughs*: And I believe, the Fresh is Sweet and Astringent.

The *Ground-Mosses* and *Tree-Mosses* are *Muscus* of different Tastes and Natures; the common *Green Ground-Moss*, most Astringent and Earthy; used in Stopping of *Blood*.

Mouse-Ear Scorpion-Grass is *Mucilagi-Myosotis* nous, and a little Acrid; by which it is *Scorpioides*. inwardly and outwardly good in Bitings of *Venomous Beasts*; And is referible to the Class of *Echium*. *† Bugloss*.

Mouse-

Myosuros. *Moufe-Tail* is Cooling and Astringent, as *Plantane*; and therefore of the same Vertue.

Myrrhis *Hemlock-Chervil* smells of *Hemlock*, and
Sylvestris is also Strong and Terebinthinate, with an
Seminibus Hot, Pungent, Sweet, and Bitterish Taste;
Asperis. a good outward Discusser and Vulnerary;
 smelling like an Oyntment, as the Name imports. It may be placed amongst the *Fetid Umbels*, being Sweet, Acrid, and Fetid; or else refer it to the *Terebinthinate-Fetids*.

N.

N.

Narcissus.

Yellow Daffadil: The Flowers smell Strong, and are Mucilaginous: The Roots are Mealy and Mucilaginous, like *Lilies*. They Vomit, as *Bulbous-Roots* do, very violently. Outwardly they are good for *Burns*, and hard *Tumors*; to break *Imposthumes*, to agglutinate *Wounds*, and cleanse *Ulcers*.

Nasturtium Aquaticum.

Water-Cresses: The Leaves and Seeds are Acrid, like *Tansey-Grass*, and other *Cresses*; and smell like *Scurvy-Grass*, but milder.

milder. It is Diuretick and Antiscorbutick, by the Volatile Salt. Outwardly it is good in *Scald-Heads*, if infus'd in *Hoggs-grease*; and it is put into *Pultesses*, to ripen Swell'd *Breasts*, and discufs *Ischiadick* Pains, and those of the *Spleen*: And it is put in Medicines *Antihydripick*, with *Liverwort*.

Catmint is of a Strong, Aromatick, *Nepeta*; *Mint*-burnt-Scent; and of an Hot, Acrid, and Bitterish Taste: The Scent is mixt of Aromatick and Fetid, and a little like *Penny-Royal*; which is also an *Hysterick*. It has quick Parts to pierce into the *Nerves*, and rectifie the Motion of the *Spirits*, by a very Volatile Oyly Salt.

By these mixt Scents it is evident, that Aromaticks and Fetids differ only in Degree.

Money-wort has a Terebinthinate Smell, *Nummularia*; and a Bitterish and Astringent Taste; by which it is an excellent Vulnerary in *Ulcers* of the *Lungs*, and an Antiscorbutick; and good in all *Fluxes*, us'd as an Astringent.

Yellow Water-Lily: The Flower smells *Nymphæa* like *Mustard-Seed*; the Leaf tastes Watry flore *Luteo* and

and Rough: the Root smells like *Walnut-Peel*; and tastes Bitterish and Acrid, like the same Peel.

Nymphæa flore Albo. *White Water-Lily*: The Leaves of the Flowers are Mucilaginous, and a little Hot; by which they are Diuretick. They are most us'd in Conserves.

The dried Roots smell like *Mustard*, and taste a little Acrid and Mucilaginous, with an Astringency. How it is useful in the *Diabetes*, and in all *Fluxes*, and in Syrup to act as an *Hypnotick*, I cannot clearly apprehend; but rather think it to be an excellent Diuretick. I cannot perceive any *Poppy* or *Opiate-Smell*. The Acrimony provokes *Urine*, as much as the Slime and Roughness can stop it.

O.

O.

Oenanthe Aquatica.

W*ater-Dropwort* tastes Sweetish, Bitterish, and Hot of the *Fennil-kind*; and smells like *Water-Parsnip*, Aromatick; and therefore is a good Diuretick.

Ophioglossum.

Adders-Tongue: The Taste is Mucilaginous,

ginous, Bitterish, and a little Biting; the Smell is Strong, Oyly, and Unpleasant. Infus'd in Oyl, it makes the Oyl green. It cures green *Wounds*, *Burns*, and *Ulcers*. It is not fit for inward Use, being very Nauseous, and not Astringent.

Quære, Whether it be not, by its Smell and Taste, and colouring Oyl green, referible to *Luteola*?

The *Male Fools-Stones*: The Leaves Orchis *Mo-*
taste nauseously Bitter, and, rubb'd with rio Mas,
the Stalk, smell a little Rank: The Flow- fol. Macu-
ers smell Sweet, like *Lilies*. The Root ^{latis.}
tastes Sweet, Mealy, and Mucilaginous;
and is of the Vertue and Class of *Lilies*.
It is hard to believe the Venereal Vertue,
because this *Bulbous-Root* will Vomit, and
seems most proper outwardly for *Pultesses*;
as *Lily-Roots*: Yet the Rank Smell shews
some Venereal Vertue.

English Wild-Marjoram is Bitterish, Hot, Origanum
and Aromatick, like *Marjoram*. It is a vulgare.
good *Cephalick*.

Broom-Rape tastes extreamly Rough and Orobanche
Bitterish: It almost choaks the Taster by
the Roughness; and therefore too much
a *Styptick* for inward Use; but is rather
a good

a good external Vulnerary. It grows fast in the Root of *Broom*; of which the Ingenious *Walter Chetwynd*, of *Ingestry*, inform'd me: and I found it to grow out of that Root. In Figure and Vertue it is like *Hypocistis*.

Oxyacantha,

Barberies: The Bark is Bitter, Astringent, and a little Slimy, Pungent, and Acriid; by which it purges *Choler*, if the Bark be steeped in Beer; as I tried it in a *Cholerick* Person. The Berries are Acid, Astringent, and good in *Fevers* and *Fluxes* from *Choler*: And they excite Appetite.

Oxyacanthus,

Hawthorne: The Leaves are Mucilaginous; the Fruit is Pulpy and Mucilaginous; and therefore good for the *Stone*. The Stones joyning with the Animal Acids, become Diuretick. The Bark is Rough and Bitterish; and the Flowers smell Sweet and Faint. *Pyracantha* has the same Taste and Vertue.

Corn-

P.

P.

Corn-Red-Poppy: The Flowers have Papaver a heavy Narcotick Smell; and Rhœas. taste Mucilaginous, Sweet, and a little Warm: The Syrup and Water are most used; which last has a Narcotick, Offensive Smell, and carries much of the Vertue. The Root and Milk are Bitter, and extream Acrid. The Syrup and Water are mild Opiates. A stronger Preparation may be made out of the Roots. The Leaves are outwardly Opiate; and cool Inflammations. The Seeds are said to loosen the Belly (which Opiates do) in great quantity.

Pellitory of the Wall: The Taste is Parietaria. Watrish, Cool and Bitterish, like *Bugloss*; and therefore is accounted Nitrous. It is used inwardly to cool Heats in *Hæmorrhoidal Coughs*. It is but a Cool, Watry Diuretick, used in *Clysters* as an Emollient: Externally it is cooling in *Erysipela's, Inflammations, Burnings, and Tumors*.

Quære, Whether the Diuretick Vertue depends not much on the Sandiness, of the Leaves? The Vertue of the Herb

M

is

is best in Syrup for *Coughs*. I refer it to *Bugloss*.

Paronychia vulgaris;

Rutaceo folio.

Common Whitlow-Grass is of an Acrid Cress-Taste and Vertue.

Rue Whitlow-Grass is Bitterish, and of an Astringent Rough Taste, and a little Sweetish; by which it checks the Putrefaction in the *Kings-Evil*. I tasted it decaying, and not fresh.

Pastinaca latifolia sativa.

Common Garden-Parsnep: The Root is Sweet, Mucilaginous, and Aromatick; very Nutritive and Diuretick.

Pastinaca sativa tenuifolia.

Carrot: The Roots are very Sweet and Aromatick; and the Seeds are the same; being like *Daucus-Seed*, Carminative and Diuretick.

Pastinaca aquatica.

Water-Parsnep is of an Aromatick Smell, and pleasant *Parsnep-Taste*. The Distilled Water is Diuretick, and a little Hot, as the Leaf tastes.

Pecten Venetis.

Venus-Comb is Sweet, Hot, and Aromatick; like *Chervil*, in Taste and Smell; and of a Diuretick Vertue.

Red-

Part II. Spontaneous English Plants. 163

Red-Rattle seems to be of the nature of *Pedicularis* the *Pea*-tribe, tasting Sweet; and smelling Rubra vul-like Green *Peascods*. It is as good for garis. the *Scurvy* as *Fitches*, and is Diuretick.

Great Red-Rattle has the same sweet Taste, and is a little warm; therefore it is a good Diuretick.

Pedicularis Rubra palustris elatior.

Yellow-Rattle is Sweet, Mucilaginous, very Biting and Acrid. I rather believe this *Plant* would kill *Lice*, as *Staphis agria* does, by its Acrimony, than produce them. And for that reason *Staphis agria* is called *Pedicularis*. It seems to be a notable Diuretick, by the Mucilage and Acrimony.

Cinquefoyl: The Leaves taste Rough; the Roots Bitterish and Rough, like *Tormentil*. The Roots of either are usefully put into the Bitter Draught, without *Senna*, and given before *Ague-Fits*. It's good in all *Fluxes of Blood*, and other Humors; being a good inward Vulnerary.

The Roots of *Cinquefoyl* are Sub-acrid; by which they are Diaphoretick in *Fevers*.

Petty-Spurge is of a burning Taste, and of a Purgative Faculty, as all the *Spurges* are.

Peplus five Esula rotunda.

Periclymenum.

Honey-Suckle: The Berries are Sweet and Slimy. Ten or Twelve squeezed into Beer, purge. The Leaves have a Bitterish, Grassy, a little Mucilaginous, and Biting-Taste: This is a great Diuretick in the Flowers, of which a Conserve is used in an *Asthma*. The Flowers are Mucilaginous, Biting, Burning, and of an Aromatick Smell. An Oyl for *Palsies* is made of the Flowers. The Juyce of the Leaves is Diuretick.

Quære, Whether the Wood may not be used, instead of *Lignum Nephriticum*?

By the Figure of the Flower, and the Bitterish, Slimy, Acrid Taste, I refer this to the *Pea*-tastes. The Green-Leaves rubbed, smell like *Green-Pease*. And the Flower is like a *Bean-Flower*.

Perficaria Maculosa.

Spotted-Arsmart: The Roots taste Rough; the Leaves Acrid, Rough, or Acerb: Good in all *Fluxes*, and Cooling.

Perficaria Acris.

Biting-Arsmart: The Taste is very Hot and Burning. The Distilled Water is good in the *Stove*. Outwardly in *Cataplasms*, it discusses and dissolves hard *Tumors*. By the strong Acrid, it is a *Ranunculus*.

Petalites.

Butter-lur: The Root and Leaves taste much like *Angelica*, Sweet, Bitterish,

ish, and very Acrid, but more unpleasant, and smells like it; with a Headiness or *Fætor*; of a *Mithridate-Flavor*; and therefore used as a *Sudorifick* in *Pestilential Fevers*, and in the *Cough*.

Harts-Tongue has a Rough Taste, like *Phyllitis*. *Fern*; and therefore useful for *Ulcers*, *Fluxes*, *Splenetick Fermentations of the Blood*, and *Disorderly Motions of Spirits*, in *Fits of the Mother*, and in *Hot Constitutions*. It has a *Fragrancy* which is *Cordial*, when it is *Infused in Drink*. A *Fern-Smell* is in the *Green-Leaves*, like *Tallow*. But the *Orris-Smell* is more evident in the *dried Leaves*.

Common-Burnet, Great and Little, have *Pimpinella* an *Aromatick Cordial Smell*, infused in *vulgaris*, *Wine*. The *Root* is very *Rough and Bit-* *Sanguisor-*
terish; and therefore good in *Fevers* be-
fore the *Fits*. The *Green-Leaves* are very
Slimy, and *Rough* after that *Taste* is over:
The whole is a good *Stryptick* and *Vul-*
nerary; and is good for *Spittings of Blood*.

Burnet-Saxifrage: The *Roots*, *Seeds*, *Pimpinella*
and *Leaves*, are of a *Sweet*, *Aromatick*, *Saxifraga*
Hot, *Parsley-Taste*, and *Diuretick Vertue*; *major &*
but much more *Hot* and *Pungent* than *minor*.
Parsley. M 3 *Butter-*

Pinguicula *Butter-wort* : The Leaves are very Mucilaginous, Bitterish, and Acrid. The Flowers have a Fragrant Smell ; by which they may purge ; and outwardly make an Oyl like *Adders-Tongue* : It seems to be a sort of *Violet*. The Mucilage makes it fit for Chops in the Breasts and Hands, and colours Yellow.

Pisum Arvense. *Field-Pease* : The Leaves have a Sweet, Slimy, Raw Taste. It will make a cool distilled Water, and is Diuretick. The Juyce cools Hot *Bloods*. And *Scorbutick* Persons, who have Lived on Salt Meats at *Sea*, eat *Green-Pease*, and other Raw Fruit.

Plantago aquatica. *Water-Plantane* is of an Astringent and Cooling Taste, and used as such.

Plantago vulgaris. *Common-Plantane* : The Leaves are Acid and Astringent. Outwardly they cool *Inflammations* and *Burns*. Inwardly the Juyce is Cooling, Astringent, and Diuretick. The Seeds are Mucilaginous, but the Husks are Astringent. In Powder it is used for *Fluxes*. The Juyce is good outwardly in *Ulcers of the Leggs*.
Quære, The Bitterness of *Plantane*.

Plantane.

Plantane-Rib-wort is boyled in Posset-Plantago Drink, and given before *Agues*, which it quinque-nervia. cures by the crude Astringency.

Milk-wort is Bitter, Mucilaginous, and Polygala! a little Pungent; and smells Fragrant, like *Pansies*; and is Purging. *Violets*, *Pansies*, *Butter-wort*, and *Milk-wort* are of an agreeable Smell, and all Purging more or less; being Bitterish, Mucilaginous, and a little Acrid.

Solomons-Seal: The Roots and Leaves Polygona- are Mucilaginous, and a little Biting or tum vul- Pungent, without Astringency. It is gare. used boyled in Wine, or Powdered for *Ruptures*. Outwardly it is Agglu- tinative, and Cosmetick; the Berries are Vomitive.

I did not observe the Bitterishness nor Astringency (as *Galen* did) which joyn- ed to a Mucilage and Acrimony, will certainly render it Purgative.

Quære, Whether the Berries be Sweet, Bitterish, and Nauseous?

The Flowers and Leaves are like *Lilies*.

Knawell: The Taste is Bitterish and A- Polygo- stringent. It is of the same Vertue as num Ger- the ordinary *Polygonum*. manicum.

Parkinson says, The Seeds are Acrid, as *Herniaria* is, and Diuretick.

**Polygo-
num vul-
gare.**

Common Knot-Grass tastes Acid and Astringent: It is therefore good in all hot Fluxes inwardly; and outwardly for Inflammations.

**Polypodi-
um.**

Polypody: The Roots are lusciously Sweet and Astringent; of the *Fern-Taste* and Class; but by the great Sweetness it is Laxative. The Leaves are Bitterish, Sweet, and Astringent. It is accounted a Lenient Purger; but is most fit for Splenetick Distempers, in Powder or Decocti-
on.

**Populus
alba.**

White-Poplar: The Bark is Bitter, Astringent, and of a *Laurel-Taste*.

**Populus
alba fol.
minoribus.**

Abele: The Bark is Bitter, Astringent, and of a *Laurel-Taste*.

**Populus
Lybica.**

The *Aspen-Bark* is very Bitter, and of a *Laurel*, Bitter and Astringent Taste.

**Populus
nigra.**

Black-Poplar: The Bark is Bitter and Astringent. These *Poplars* come the nearest to the *Jesuits-Bark* of any *English* Trees.

Narrow-

Part II. Spontaneous English Plants. 169

Narrow-Leaved Pond-weed is of the Potamo-
same Taste as *Spotted Arsmart*, Acid and geiton Per-
Astringent; and both have the Nature ficariae fo-
and Vertue of *Polygonum*. lio.

Cowslips: The Flowers smell Fragrant. *Primula*
The Roots are Bitterish, very Hot, and veris ma-
Biting. The Leaves Sweet and Muci- jor.
laginous. The Syrup and the Water are
a little inclining to Sleep; but they have
no Narcotick Fætor; therefore act little as
such, by their Smell refreshing the Spirits
more than Stupefying; or rather by a
sweet headiness, overcoming the Spirits.

Common Primrose: The Leaves smell *Primula*
like fresh *Marmalade*. The Roots taste veris vul-
Bitterish and Acrid; and smell of the garis.
Plant in Powder; which I use for Snuff:
and it works as much as *Hellebore*.

The Roots may be put into Waters
for the *Head*. The Leaves are Sweet
and Mucilaginous. The Juyce of them
is Snuffed into the *Nose* with Milk. The
Juyce of the Root, with equal quantity of
the Juyce of *Marjoram*, put into the *Nose*
with a Thimble, purges the *Head* strong-
ly; and by Irritation in the *Throat*, Sali-
vates and helps the *Kings-Evil*.

Primrose has a Mucilaginous and Acrid
Taste;

Taste; and a strong tho' pleasing Smell; by which it operates, in causing Sleep.

Prunella. *Self-Heal*: The Leaves taste Watry and Mucilaginous; by which it cools the Mouth in Gargarisms.

Quære, Whether *Lysimachia Purpurea* be of the same kind, and both be *Lamiums*? It is Bitterish, Sub-astringent, Slimy, and good in *Hæticks*: It is also Vulnerary.

Prunus Sylvestris. *Sloe-Tree*: The Leaves and Bark are very Rough and Bitter, by which they stop *Fluxes*. The Syrup is most used, made of the *Sloes*, to stop any *Evacuation*, and for Gargarisms. The Flowers smell like *Orange-Flowers*, and taste Bitterish. They will make a Purging Syrup, and yield an Aromatick Water very Cordial.

Pseudo-melanthisum, lychnis segetum. *Cockle*: It is a little Biting, and of the Vertues of *Nigella*.

Ptarmica. *Sneezewort* is Bitterish, very Acrid, and Aromatick, like *Millefoile* in the Scent; and therefore a good *Cephalick*. It promotes *Sneezing*; and chewed, it draws forth *Rheums* like *Pellitory*.

Part II. Spontaneous English Plants. 171

Penny-Royal is Bitterish, Hot, Acrid, Pulegium. and Aromatick; flying quick into the Nose; having in it a Volatile Oyly Salt, as all *Cephalicks* have; by which it is good in *Hysterick-Fits*, *Obstructions of the Womb*, and *Convulsive Coughs*, in Syrup; and in *Hoarseness*, made as *Thea*. The Smell of it is mixt of Aromatick and Fetid, as many other *Hysterick Medicines* be; as *Matricaria*, &c.

Spotted Lung-wort is Watry and Muci-Pulmonalaginous, like *Burrage* or *Bugloss*; and is ^{ria macu-} a little Bitterish, like them. It cools ^{losa.} *Hectical Heats*, and *Thirst*; and supplies a cool *Lympha*.

Pasque-Flower is Burning like other *Pulsatilla*. *Crow-foots*. The Root is said to be Sweet.

Pear-Tree: The Bark and Leaves are *Pyrus*. very Rough; therefore great Astringents. *Burgamo-Pears* are Sweet, Sub-acid, and Slimy; and the outward Rind Styptick.

Crow-

R.

R.

Ranuncu-
lus.

Crowfoot : The greatest part of Crowfeet are Exulcerating and Blistering the Tongue. I boyled the Common-Crowfoot in Hoggs-Grease; but it would not blister without *Cantharides*. The dried Roots promote Sneezing. It cures Marks of the Skin, and Warts, by raising a Blister, and afterwards a Crust; and therefore hath a Caustick virtue. The round Root of Crowfoot rubbed, flies quick up into the Nose, like Spirit of *Sal-Ammoniack*, which shews the Corrosiveness to be in Volatile Salt: And the Crowfeet smell a little like *Scurvy-Grass*.

Quære, Whether any Sweetness be in *Ranunculus*, besides the Acrimony, because the Root of *Ranunculus Bulbosus* tastes Sweet after drying? And there is a kind of *Ranunculus*, called, *Pratenfis erectus dulcis*, which may be eaten.

Ranuncu-
lus Flam-
meus.

Spear-wort is very Caustick, if bruised and put upon the Skin with a Walnut-shell, where the pain of the Gout is, or where any pain of the Head lyes in a small compass, by letting out

Part II. Spontaneous English Plants. 173

out some of the Stagnating Serum.

Quære, Whether any Bitterness be in it? I did not taste any Bitter.

Horse-Radish: The Leaves, Seeds, Raphanum and Roots, are of a very Biting Cress-Taste and Vertue; and therefore Diuretick, Antiscorbutick, Stomachick, Splenetick, and Antihydropick. The Leaves may be used in Medicines, as well as the Roots or Seeds, being Bitterish and very Acrid. The Lymphæducts have a Sweet Juyce; Dr. Grew. And a Sweetness may be tasted as well as a Bitterish-Acrid, in the dried Root, when used in Diet.

Chadlock is of a Cress-Taste and Ver-Rapistrum tue, like Mustard.

Turnep: The Seeds and Leaves taste Rapum sa-Acrid. The Root boyled. is Sweet and tivism. Mucilaginous: The old Root is Bitterish. It is of the same kind as *Sinapi* or *Cresses*, and therefore has a Volatile Salt in it, which makes it *Diuretick*, *Pectoral*, and *Antiscorbutick*. But it is Windy, from the Mucilage and Volatile Salt combined together; as in *Garlick*, *Leeks*, &c.

The Roots being roasted, are used in drawing *Pultesses* for *Scorbutick Tumors*,
the

the *Scrophulæ*, Swelled Breasts, and Gout. The Green-Leaves smell, when rubbed, Acrid, like *Horse-Radish*, or *Cresses*. The Seeds of the *Wild-Turnep* yield *Rape-Oyl*, which with Sugar cures the *Aphthæ* in Children. Syrup of *Turneps* is very Sweet, and has a strong Smell; by which it is an excellent Pectoral in *Pleurisies*. The Broth of *Turneps* sweetned with Sugar, is a pleasanter Medicine than *Rape-Oyl*, for the *Aphthæ*.

Rapuncu-
lus.

Rampions: It is a Milky Plant, Sweet and Sub-acrid. It is good for Diet: And, as Physical, it is Pectoral and Diuretick, by the Acrimony.

Rapuncu-
lus Scabio-
sa capitulo

Sheeps-Scabious: The Taste is Sweet and Hot, both in Leaves and Root: It has a Smell a little Mellowy.

Rhamnus
catharticus

Buckthorn: The Berries taste Sweet at first; then Mucilaginous, Bitter and Rough. The unripe Berries in *Alum-water* colour Yellow; when ripe, Green. The Syrup made in *B. M.* so that the Colour and Vertue in the Skin may be Extracted, looks of a Red colour, and purges very strongly, from one Spoonful to four. The new Syrup purges violently,

lently, and loses of the strength after two Months. It gripes least, if made of Ripe Berries: The Berries are taken from Fifteen to Twenty-Five, to Purge. The Bark of the Tree is a little Rough, Bitter, and Mucilaginous; and may be put into Diet-Drinks, with *Dwarf-Elder* Roots and *Orris*, to purge; to which add *Daucus*, *Juniper-Berries*, and *Wormwood*. The Bark smells something Fragrant. The Syrup is proper for *Hydropical* Persons.

Sun-Dew: The Taste is Rough, Acid, *Ros Solis*. and Acrid, and has a *Sorrel*-Smell: The Acrid is not tasted till after a while. If applied outwardly, it exulcerates like *Ranunculus*. It is put into Cordial-Waters, gives a Yellow colour, and has an *Anti-Pestilential* Vertue. The dried *Ros Solis* tastes very Acid, like *Sorrel*, and Rough; for which reason, some may give it in *Spitting of Blood*; but the latent Acrimony is to be suspected; which makes it to be a *Crowfoot*.

Eglantine-Rose tastes as the *Dogg-Rose*, *Rosa Syl-*
but smells more Sweet and Fainty. *vestris o-*
dora.

Dogg-Rose: The Flowers are Bitterish, *Rosa Syl-*
Slimy, and Astringent: If they be boyled *vestris ca-*
in *nina.*

in *Whey*, they will purge as *Damask-Roses*. The Fruit tastes Acid, and so does the Conserve; which therefore will quench *Thirst*, and cool the *Cholerick Blood*. I have distilled a very Fragrant Spirit from the Fruit, after Fermentation. The *Dogg-Rose* transplanted into Gardens, loses the Smell. The Fruit must lye and putrefie, before the Conserve be made: The boiling in Water takes away the Acid from it. The taste of the Spongy Excreescency is Bitterish and Astringent; it smells like the *Rose*, is Pungent or Warm, and is given in *Spitting of Blood*. The Root is very Bitter and Astringent, and may cure the *Biting of Mad-Doggs*, by those qualities. All the *Rose-Roots* are Bitterish and Astringent, but the White seems the most Astringent. I did not perceive any Acrimony in them. The Leaves are Slimy, Mealy, Bitterish and Rough.

Rubia tinctoria.

Madder-Roots are Yellow at first getting, and then turn Red. They Taste Bitter, Astringent and Acid; and therefore are a good Hepatick by both Tastes: When dry, they are most Astringent and Vulnerary. They are *Styptick* in all *Fluxes*, and Dye Red. The Flowers smell pleasant, as *Gallium* Flowers do.

Raspberry:

Raspberry : The Berries have a Fragrant, *Rubus I-*
Violet or *Orris-Smell*; and a Sweet, Sub-*dæus*,
acid and grateful Taste. They make a
pleasant Cordial Wine, Syrup, and distil-
led Water; which are all Cordial and
Cooling. The Leaves are Astringent.

Bramble : The Leaves and Flowers are *Rubus vul-*
Bitterish and Astringent. The Ripe Ber-
ries are Sweet, Sub-acid, Slimy, and a
little Rough. They are good for *Sore-*
Mouths, and used in *Dysuries*, and for the
Scurvey. A grateful Wine is made out
of the Juyce of the Berries. The Root
tastes Bitterish, a little Acrid, and very
Rough, by which it may be Diuretick.
The Sprouts from the Roots taste sensibly
Hot, and very Rough. The distilled
Water from the Leaves and Flowers of
the *Bramble* is Fragrant.

S.

S.

A *Row-Head* is Sweetish, and a little *Sagittaria*
warm, like *Water-Parsnep*; and major,
therefore may be *Diuretick*. It
is accounted like *Water-Plantane* and
Sparganium : If so, *Water-Plantane* and
N *Sagit-*

Sagittaria may be placed in the same Class of crude *Plants*.

Salix latifolia & *angustifolia*. *Sallow and Willow*: The Leaves are Mucilaginous, and of a *Sorrel* Smell.

Salix folio longissimo. *Osier*: The Bark, Leaves, and Juyce of all them are Bitterish, Rough, and good for all *Fluxes*.

Salix Odorata. *Sweet-Willow* tastes very Bitter and Rough; and smells Fragrant, if rubbed.

Salix folio utrinque glabro virente, five laureo, five amygdalino. The *Bay-leaved Willow* is very Bitter and Rough, and tastes and smells like *Laurel*; and therefore fit to be tryed, instead of the *Cortex Peruvianus*.

Salvia agrestis. *Wood-Sage* smells strong like *Hops*, tastes very Bitter, and is of the Vertue of *Scordium*, viz. *Diaphoretick*, *Diuretick*, *Splenetick*, *Vulnerary* and *Cleansing*. It may be used in Drink like *Hops*, which has been tryed by my self, and others. A double quantity is to be put into the Drink, viz. as much again as the usual quantity of *Hops*. It is to be referred to the *Lamium-Class*.

Sambucus aquatica. *Water-Elder*: The Bark tastes nauseously

ously Bitter, and is fit to vomit. The Berries are Bitter, Acid, and Mucilaginous. I made a Syrup of them very nauseous. The Leaves are also nauseously Bitter; and smell like *Currain-Leaves*. I gave my Dogg of the Juyce of the Berries, three or four Spoonfuls; and of the Leaves and Stalks Decocted, one handful: but they neither purged nor vomited him. The Flowers smell Sweet.

Common-Elder: The Bark is Mucila- *Sambucus* ginous and Bitter; and is used for a Vo- vulgaris. mit. Three handfuls of the Inner-Bark, boyled in Two Pound of Milk and Water, to One Pound; give half of it in the Morning, and the rest at Night, to vomit and purge: (*Sydenham* of the *Dropsie*.) The Leaves are Slimy, Bitter, and Nauseous; and are not good inwardly, but outwardly in *Baths*, for *Inflammations*; in Pultesses, and in Oyls and Oyntments for the *Piles* and *Gout*. They discuss much, and are good for *Burns*. They have a strong stinking Smell.

The Flowers put into Ale, make a good Drink for the *Scurvy* and *Dropsie*, as well as the Berries.

A Spirit made of *Elder-Berries* or *Flowers*, is good in the *Scurvy*: The Ber-

ries are Mucilaginous, Sweet, and Subacid. The Syrup is best made of them in a Jugg set in Water; by which Infusion, the Vertue is taken out of the Skins and Stones, and looks more Red, and tastes less Nauseous than the *Apothecaries Syrup*, made by Expression. The Syrup made by Baking is more Heady and Spirituous. The Flowers make a pleasant Fragrant Water, like *Orange-Flowers*, Bitterish, Acrid, and Aromatick; whereby they are *Cephalick*, *Diuretick*, and *Carminative*.

The Water is good for *Freckles of the Face*; for which the Infusion of the *Green-Leaves* is also good.

The Syrup is good in *Hot Scurvies*, *Sore-Mouths*, and *Hot Dropfical Cachexies*.

Sanicula.

Sanicle is Bitterish, Astringent, Subacid, and like *Turpentine* in Taste; and smells of *Balsam*, and is a *Resinous Turpentine Plant*; and therefore *Vulnerary*, externally and internally; and it is used as a *Styptick*.

Saponaria
vulgaris.

Common Soapwort is Mucilaginous, Bitter, and a little Acrid: and therefore may be *Diuretick* and *Sudorifick*. The Leaves may be laid on *Issues*: It may be good for

Part II. Spontaneous English Plants. 181

for *Ulcers*, as it is Healing and Cleansing, by the Mucilage and Bitter. Outwardly it discusses strongly like *Elder*, and is like in Vertue to it. The Flowers smell Sweet, and very Strong, by which it seems to be a *Lychnis*.

White-Saxifrage is Bitterish, Astringent, *Saxifraga* and a good *Vulnerary*: It has also a little alba. Heat, by which it is *Diuretick*.

Golden-Saxifrage is Bitterish, Hot, and *Saxifraga* Astringent, with a Rellish like *Meadow-aurca*. *Saxifraga*; of the Vertue of the former.

Meadow-Saxifrage: The whole *Plant Saxifraga* tastes Sweet and Hot; is Aromatick both *Anglicana*. in Taste and Smell, and strongly *Diuretick*. It is of the *Fennil-Class*.

Scabious is very Strong, Bitter, and *Scabiosa*. Astringent; and in the Flowers a little Acrid. The Syrup and Decoction of the Juyce cleanse the *Breast*, are *Sudorifick* and *Alexipharmack*. Outwardly it is good for the *Itch*, *Tetters*, and *Dandriff of the Head*. Inwardly it is good in *Faundice*, and helps *Digestion*.

Water-Germander is very Bitter, Astringent, *Scordium*.

gent, Hot, and Acrid; and therefore *Sudorifick* and *Alexipharmack* in the *Plague*, and *Pestilential Fevers*, in distilled Waters. Externally it cleanses *Ulcers*, and is good for *Gangreens* in Fomentations. *Scordium* smells like *Garlick*, and is therefore *Diuretick*, good for *Worms*, and a strong *Pectoral*. *Scordium* is good in *Sordid Ulcers*, and is *Vulnerary*. The Acrimony of it is like a *Garlick* Pungency. By the Taste and Figure it is referible to the *Lamium*-Class.

Scrophularia. *Fig-wort*: The Leaves taste very Bitter, and smell like *Elder*. The Roots are Rough, and less Bitter, and have Knobs like *Kernels* or *Piles*; for which they are used in Oyntments, discussing them, as the *Elder*-Smell shows. The same Oyntment is good in a *Malignant Scab*, and in *Cancrous Ulcers*.

Secale. *Rye* Tastes Sweet, as other Corn does: It is more Mucilaginous than *Wheat*; and therefore less easie for Concoction: And the Meal is more moistening than *Wheat*-Meal in *Pultesses*.

Sedum majus vulgare. *Great-Housleek* tastes Waterish, very Rough, and Astringent. The Syrup of it and the Water are very Cooling and Astringent

stringent in *Fevers*, especially in *Hæticks*, and in all *Fluxes*. The Oyntment cools all *Inflammations*, *Cancers*, and *Erysipelas's*; and cures *Tetters*, and *Burns*. If the bruised Leaves be applied, they cure *Corns*.

Prick-madam, or *Stone-crop*, tastes Wa-
 terish, Acid, and Rough. The Root Bit-
 terish and Astringent. It is of the nature
 of the former, Cooling and Astringent.

Wall-Pepper : The Taste is burning
 Hot, and Exulcerating. Outwardly it
 blisters : Taken inwardly it vomits
 strongly. By the great Acrimony, the
 distilled Water is *Diuretick* ; and if it be
 made into an Oyntment, it discusses *Tu-
 mors*, and the *Scrophulæ*. The Decoction
 of it with *Alum* and *Honey*, cures putrid
 Flesh, growing in *Scorbutick Gums*.

Groundsel : The Leaves taste Bitterish,
 Sweet, Hot, and Mucilaginous ; and smell
 Sweet, like *Parsnep*. The Root tastes
 Nauseously Bitterish and Acrid. The
 Juyce or Decoction vomits. The Syrup
 of the Juyce purges Sucking Children.
 Outwardly it is of a discussing Faculty,
 and emollient in *Inflammations*, *Tumors*,
Itch, *Gout*, and *Wind*. It's given Horfes for
 the *Botts*.

Senecio major odoratus viscidus. *The Greater Erigerum* smells Strongest and Pleasantest, and is of a Bitterish, Hot, and Slimy Taste; the Smell resembles *Angelica* or *Parsnep.* It is very Discussing and Emollient.

Serpyllum. *Mother of Thyme* is Bitterish, Hot, Acrid, and Aromatick; and therefore *Cephalick*, *Stomachick*, *Carminative* and *Uterine*.

Sideritis arvensis latifolia. *Smooth Broad-Leaved Ironwort* tastes Bitterish, Slimy, and Sub-astringent; and smells like *Dead-Nettle* or *Betony.* Outwardly and inwardly it is *Vulnerary*, by the Mucilage and Bitter-Astringency.

Sideritis Anglica frumosa radice. *Clowns All-heal* is Bitterish and Rough, like *Betony*; smells like *Dead-Nettle*; and the Taste is the same. It is accounted a *Vulnerary*.

Sinapi vulgare. *Common-Mustard* is a great *Diuretick* in *Dropsies.* If three spoonfuls of the powdered Seed be put into a Bottle of Ale, it will sometimes put by a Fit of a *Quartane Ague* in the declination. It is also a great *Antiscorbutick.* The Taste is Bitterish, very Hot and Acrid; yielding a Volatile Salt in Distillation. Outwardly it is good for *Scorbutick Pains*, and

and *Foul Ulcers* ; and inwardly it is a cleansing *Pectoral*, and fit for a *Gargle* in the *Lethargy*. It is *Sternutatory* ; it excites an Appetite, and helps Digestion. All which it does by the *Acrid, Volatile Salt*, which will blister a little.

Water-Parsnep has the taste and smell of *Sium a-Parsnep*, and is of the same Vertue ; *Diu-quaticum*. *renick* in the distilled Water, and good in *Tumors of the Breasts*, that are *Scrophulous*.

Common Night-shade : The Leaves *Solanum* taste *Waterish* and *Slimy*, with a little *vulgare*. *Biting* or *Heat*, and a little *Rough* ; when pounded they smell like *Green-Sauce* ; which shews their crudeness. The Berries taste *Sweet* and *Mucilaginous*. The Leaves pressed in the Hand, have a strong Smell, not unlike *Chocolate*.

I gave a Dogg twelve Spoonfuls of the Juyce of the Leaves, he was Sick after it, and Dull ; but not Stupid, as by a *Narcotick*. An Oyntment may be made of the Leaves, like *Stramonium* Oyntment ; Cooling *Inflammations* and *Erysipelas*, and Healing *Tetters* and *Scalds*. The Root is *Mucilaginous*, *Strong*, and *Offensive*, like other *Solanums*. The Berries are *Green* within, and taste *Nauseous*.

Deadly

Solanum
lethale.

Deadly Night-shade : The Leaves are of a strong Narcotick Smell, and are Mealy, Slimy, and Hot, (*Parkinson* says, Bitter. *Quære.*) The Root is Mealy, Mucilaginous, and of a strong Offensive Opiate Smell. An Oyntment is made of the Leaves for *Cancerous Pains*; and the Leaves are applyed whole to *Cancers*.

The Berries have a Purplish-Juyce, and are accounted Poysonous to Children.

Dr. Grew says, The Root is Sweet. *Quære.*

Solanum
lignosum.

Bitter-Sweet, or Woody Night-shade : It hath a Smell like other *Solanums*; and therefore is Narcotick. The Bark is very Hot, Bitter, and Slimy. The Leaves have the same Taste, and therefore may be Purgative. The Bark is used for *Hydropical* Persons, to purge and provoke *Urine*: It works churlishly. The Leaves are outwardly used in *Inflammations*, and *Itching Tumors of the Hands and Feet*. The Berries are Sweet, very Nauseously Bitter and Slimy; and therefore are Purgative and Vomiting, very violently. The Roots smell like *Hounds-Tongue*. And the other *Solanums* seem to me to resemble that Smell rather than *Poppies*.

The Dogg to whom I gave Thirty of the

Part II. Spontaneous English Plants. 187

the Berries, neither vomited, purged, nor slept, but dyed Mad, within three hours.

Sea Bind-weed : I tasted it in the Soldanella Shops, and it was Bitter, Mucilaginous, marina. and Acrid; and therefore as other *Bind-weeds*, very Purgative in *Hydropical* Persons. The *Plant* has a Milk as other *Bind-weeds* have.

Sow-Thistle is in the Root and Milk *Sonchus*. Bitterer than in the Leaves. It is of the nature of *Dandelion*. The Leaves are most Cool and Bitterish; and the Root most Aperitive. The Leaves are good for *Hot Tumors* : And boyled, it is good to give Nurfes to increase Milk. The distilled Water is good for *Freckles*, and the Root is a good Diuretick.

Flix-weed hath a Cress-Smell, when SophiaChi-rubbed, but stinks at first. It has a rurgorum. Cress-Taste, and a Diuretick Vertue. It is erroneously recommended as Astringent; but may be a good Discutient and Antihysterick by the *Fætor*, and Diuretick by the Acrid Salt. It is good to cleanse *Ulcers*.

The *Sorbe-Tree* is Bitterish, and Astringent
Sorbus sylvestris tor-
gent minalis.

gent in Bark and Leaf. The Fruit is Acid and Rough; and both are good for *Fluxes*: For which a *Rob* may be made out of the immature Fruit.

Sorbus Sylvestris aucuparia, sive Fraxinus Bubula *Quicken-Tree*: The Bark is Bitter and Astringent, like *Laurel-Bitters*. The Berries are Bitter and Acid. They are good in the *Dropsie* in Diet-Drinks, as they are Purging. This is rather an *Ash*, by the strong-Bitter.

Sparganium ramosum *Burr-reed* is Astringent.

Speculum Veneris *Coddred Corn-Violet* has a crude slimy Taste and Smell. I tasted it in a Garden, it being the great *Venus Looking-Glass*. It is Milky, like *Rampions*.

Spergula *Spurry* is of a crude Juyce, like *Chick-weed*; and is referible to the *Chick-weeds*.

Sphondylium *Cow-Parsnep*: The Root is Sweet, Biting, and of a *Parsnep-Taste*. The Seeds are Hot and Acrid, and of a strong Smoaky Smell, but very little Aromatick; and therefore accounted an *Hysterick*.

Staphylo-dendrum *Bladder-Nut*: The Leaves taste Rough, and the *Nuts* Sweet and Nauseous.

Tansie

T.

T.

T*Ansie* tastes Strong, Bitter, and Tanacetum.
Acrid, and is of an Aromatick
Smell, like *Feaver-few*. The
Juyce is given for the *Worms*. The Con-
serve is *Hepatick* in *Dropshes*, and good in
Colicks. The Seed is given for the
Worms, and is Bitter, Acrid and *Diuretick*.

Tew-Tree: The Berries are Mucilagi-**Taxus**.
nous and Sweet, and are eaten Innocently;
but the Seed in them is very Bitter and
Nauseous; and therefore causes a *Diarrhæa*. The Leaves have a bitterish, crude
Taste, without any Narcotick Smell. It
is like the *Turpentine-Trees* by the Green-
ness; but the most crude and fixt of all
that kind. The Wood hath no offensive
Taste, but seemed a little Hot on my
Tongue. The Leaves are not unlike *Firr*.

A poor Woman at *Elford* in *Stafford-
shire*, gathered up the cuttings of the
Bows of the *Tew-Tree*, in the dry Year,
and gave them to her Cow; upon the
eating of which she dyed. But it may
be the dryness of the Leaves made them
offensive to the *Stomach* or *Wind-pipe*.

Orpin

Telephium. *Orpin* is Mucilaginous and Watry, like *Purslain*. A Syrup of it cools and heals the *Exulcerate Guts*, in a *Dysentery*. Roasted in the Embers, and pounded with *Swines-Grease*, it cures *White-Flaws*. It is outwardly good for *Inflammations*, *Burns* and *Scalds*. The Leaf bruised may be laid to any Green Wound. The Roots are knobbed like the *Piles*. And a cooling Oyntment of them is better than an Amulet for the *Piles*.

Thalictrum *Meadow-Rue* is of a Dry, Bitterish, and Sweet Taste, and of a strong Scent. It may loosen the Belly, and seems to be like *Columbine* of the *Pea-Clas*s. *Galen* makes it a *Vulnerary*.

Thlapsi. *Treacle-Mustard* is of the same Acrimony as *Common-Mustard*, but more Bitter, and smells like *Garlick*. It is *Diuretick* and *Pectoral*. Outwardly it is good for the *Sciatica*, and *Foul Ulcers*. The Seed is very Acrid.

Tilia. *Lime-Tree*: The Bark is Mucilaginous, and good for *Burns*, and *Sore-Mouths*; There is an Acrimony, and also a Bitterishness in it. The Flowers are of the same Taste, and very Fragrant, Cordial, and

and Antepileptick; for which we use the distilled Water. The Berries are accounted Astringent.

Spurge: All *Spurges* have a Milk of a Tithymalus. Bitterish and Exulcerating Taste. They are Purging and Vomiting; and by the Acrimony they blister the Skin. Twenty Seeds given in Bread and Butter to a Dogg purged him but little. This that I gave him was of the *Wood-Spurge*; but Thirty Seeds of *Sun-Spurge*, and afterwards a handful of Leaves steeped in Milk and Water, purged nothing. The Milk is good for *Warts*. The Milk dropped into Water diffused it self immediately, like *Tincture of Benjamin*. The Milk mixed with *Vinegar* huft a little; with *Spirit of Harts-horn* it mixed readily, but turned of a brown colour. The pounded Herb smells Acid, and not of any strong Scent.

Drop three or four drops of the Milk into a Figg, and dry it, give two or three Figgs. The Juyce takes off the Hair; mixed with Oyl it cures *Warts*; and removes the *Callus* of *Fistula's*.

The Milk is strongest, the Leaves and Seeds next, and the Root least.

The *Lixivium* of *Spurge* has a Caustick Quality.

Quality. There being but little Smell in *Spurge*. The Volatile Acid is coagulated into a *Gum*, with the Oyl, by an Acid; and this *Gum* mixt with Water, gives a Milk as other *Gums* do. The Acrimony depends not on an Acid, because *Vinegar* corrects the Acrimony: And another Argument, of the Gummosity is from the Purging Faculty in all *Spurges*.

Tormentilla.

Tormentil: The Root is Rough, Bitterish and Sub-acrid: It stops all *Fluxes* by the Astringency. It stops the violent Fermentation of the *Blood* in *Malignant Fevers*, joyned with *Fluxes*. It is a good *Styptick* in *Vulnerary Potions*; and a good *Antefebrifick*, resembling the Taste of the *Jesuits Powder*.

Trachelium majus.

Throat-wort has a Bitterish Milk, thick like Curds; and is called *Throat-wort*, because the Decoction is good in *Sore-Throats*, and *Ulcerated Mouths*. It tastes Mucilaginous and Sweet, and is a *Rapunculus*.

Tragopogon.

Goats-Beard is Sweet, Waterish, and Milky: and is good to eat, being dressed like *Parfneps*; or the crude Root in *Sallets*.

Black

Black Maiden-hair has a *Ferne-Taste*; *Trichoma-*
and is good for *Ulcerations in the Lungs*^{nes.}
and *Kidneys*, by the *Astringency*, *Sweet-*
ness, and *Bitterness*.

Wood-Sorrel tastes very *Acid*. The *Trifolium*
Syrup, *Conserve*, *Juyce*, and *distilled Wa-* *acetosum.*
ter, cool *Thirsts in Fevers*. *Vide Ace-*
tosella.

Honey-Suckle-Trefoyl: The *Roots* and *Trifolium*;
Leaves are *Bitter* and *Hot*, with a *Pea-* *pratense*
Taste. *purpure-*
um.

White Honey-Suckle-Trefoyl is of a *Pea-* *Trifolium*
Taste, and *Rough*. The *Flowers* are *flore albo.*
sweet as Honey-Suckles in Smell.

Clover-Grafs is like the *Honey-Suckle-* *Trifolium*
Trefoyl. The *Leaves* have a *sweet Pea-* *purpure-*
Taste, and are very *Biting* and *Acrid.* *um majus*
The *Root* is *Sweet* and *Acrid.* *fativum.*

Yellow-Trefoyl tastes *Rough* in the *Trifolium*
Leaves, but resembles *Pea-Tastes* in the *luteum.*
Flower and Root; and tastes *Hot* or *Acrid*
at the *last.*

Hop-Trefoyl has a *sweet Pea-Taste*, *Trifolium*;
and is *Rough.* *lupulinum.*

O

Yellowish

Trifolium hirsutum *Yellowish Meadow-Trefoyl* is very Rough in Taste, with a *Pea-Smell*.

Trifolium filiquosum *Small Coddred Trefoyl* has a very Rough Taste, and is of the *Pea-kind*.

Trifolium fol. purpureo. *Purple-wort* has a sweet *Pea-Taste*, and is very Rough. It is good in the *Bleedings of the Purple Fever*. The *Acrid Trefoyls* are Diuretick.

Trifolium palustre. *Buck-Bean*: The Leaves are very Bitter, and taste like a *Peach-Kernel*. It is good in Diet-Drinks for the *Scurvy*; and for *Arthritick Pains*. And I have heard them commended for a Cure of the *Drop-sie*. There is no Acrimony in the Taste, yet it is much commended in the *Scurvy*.

Triticum. *Wheat* tastes Sweet and Slimy, and is of good nourishment. The Flower is good in Small-Beer, to stop *Overflowings of the Blood*, and other *Hemorrhages* and *Fluxes*. *Mace* or *Indian-Wheat* is as sweet as *Sugar*.

Turritis. *Tower-Mustard* is of the same Taste and Vertue as ordinary *Mustard*.

Tussilago. *Colts-foot* tastes Watery, Bitterish, Rough,

Rough, and a little Hot; and therefore is a good Pectoral and Vulnerary. It smells somewhat like *Enula campana*. Outwardly it cools *Inflammations*. The Flowers smell and look like *Groundsel*. By which it may be of the same Class.

Cats-Tayl: The Root is very Clammy, Typha; Mucilaginous, and Cooling. The Mucilage may be good in Plasters, but not inwardly; it being thick like *Bird-lime*.

V.

Bilberries are Sweet and Sowre; *Vaccinia* the *Quiddany* is used for *Loose-nigra*.
nesses. The Leaves taste Sowre and Rough. The Root Bitterish and Rough. The Berries are boyled with *Alum* and *Galls*, for a Blue Colour.

Red-Whorts are Acid and Astringent *Vaccinia* in Taste, and Astringent in *Fluxes*; *Vac-Rubra*.
cinia and *Rubus*, are of the like nature.

Valerian: The Root is of a *Turpentine* *Valeriana*
Smell, like *Balm of Gilead*; and tastes *silvestris*
Bitter, Acrid, Slimy, and of *Turpentine*. *major*, *mi-*
nor, *hor-*
The *tensis*.

The Leaves are Bitterish and Mucilaginous. And the same is the Taste of all sorts of *Valerian*. The Root is an excellent Pectoral and Diuretick: And the Leaves are Cleansing and Agglutinating in *Wounds* and *Ulcers of the Mouth*. *Valerian* Flowers at first smell Fetid; after their lying a while to spend their Fætor, they smell like *Jasmin*. *Wild Valerian* Flowers have a Strange, Faint *Lily-Smell*. The Root is so like *Serpentaria Virginiana*, that I believe it a Substitute. It is used in *Convulsions* and *Epilepsies*.

Dioscorides describes the smell of the Root to be Fragrant, like *Nardus*, with some Fætor: By which it may be Antepileptick and Purgative like *Asarum*, in the quantity of an Ounce and half.

Verbas-
cum flore
luteo vul-
gare.

White Mullein: The Leaves are Watry, Bitterish and Cool. The Flowers are Mucilaginous and Bitterish, and Anodyne in Oyntments for the *Hæmorrhoids*, or in Pulcesses with Yolks of Eggs, white Bread, and *Leeks* juyced. The Root is Waterish, Bitterish, and Astringent. *Mullein* is used in *Coughs*, as *Bugloss*. The Flowers smell a little Fragrant, which argues a little Heat with the Waterishness. But because of the Astringency and

Part II. Spontaneous English Plants. 197

and Pectoral Vertue, I refer it to the *Lamiums*.

Verbain is very Bitter, Astringent, and *Verbena*. Sub-acrid, like the *Lawrel-Bitters*; and therefore Vulnerary. It is good in *Obstructions*, *Jaundice*, *Coughs*, and *Nephritick Pains*; and good against *Tertians* and *Arthriticks*. Outwardly it is Vulnerary, and a Cleanser in Putrid *Ulcers*, and *Gargarisms*. It is also Splenetick and Cephalick, having the same Bitterness as *Black Cherry-Trees*; by which, *Pains of the Head*, depending on *Fevers*, are stopt.

Tree-Stone-Crop, (I found it in Sir *Richard Nudigate's* curious Garden, to whom I am oblig'd for most of my Rarities:.) The Taste is Watrish and Crude; and it is of a crude Smell, and of a cooling Vertue.

Speedwell, or *Fluellin*, is Bitterish, Sub-acrid, and Astringent inwardly and outwardly. It is a Vulnerary, and good against *Fevers*, *Ulcers of the Lungs* and *Kidneys*. Outwardly it cures *Wounds*, *Ulcers*, and *Scabs*: And seems to be of the *Dead-Nettle-Class*, having the same Vertue.

Vicia. *Common Vetch*, or *Tare*, is of a *Pea-Taste*, and Rough: The Juyce is given in the *Scurvy*, to hinder the great Fermentation of the *Blood*.

Vicia flore Purpureo. *Purple-flower'd Vetch* has a very sweet *Pea-Taste*.

Vicia flore Flavo. *Yellow-flower'd Vetch* is very Astringent, and has a little sweet *Pea-Taste*.

Viola Martia Purpurea. *Purple-Violets*: The Green Leaves are Mucilaginous; and therefore Cooling and emollient in *Pultesses* for *Inflammations*. The Flowers are Mucilaginous, and a little Acrid, and of a Fragrant Smell. The Syrup purges a little, cools and lenifies *Coughs*, and is Diuretick. The Seeds are Mucilaginous, Acrid, and Diuretick in *Emulsions*; and sometimes purge and vomit. The Cordial Faculty lies in the Fragrancy.

Viola Tricolor. *Pansies*: The Leaves are Hot, Acrid, Mucilaginous, and Mealy; and therefore Emollient: The Smell is strong, like *Orange-Flowers*; the distill'd Water smells like them, and is Antepileptick. Outwardly the Leaves mollifie, discuss, agglutinate, and cure the *Itch* in Baths. The Muci-

Mucilage helps *Gripes*, by the Purging Quality; and helps *Expectoration*, by the Mucilage and Acrimony.

The *Great Wild-Climber*: The Seeds, Viorna five Bark, and Root, and also the Flowers, Clematitis have a burning Taste: The Flowers smell *Sylvestris latifolia*. Sweet.

Golden Rod tastes Sweet, Bitterish, and *Virga Aurea*. Aromatick (like *Juniper-Berries*) in the ^{rea}. Leaves and Roots; by which it is a good Diuretick, and Carminative.

Mistletoe grows on the *Maple*, *Crab*, *Viscum*. *Apple*, and *Hawthorn*: Mr. Ray says, On the *Nut*, *Elm*, *Willow*, *Buckthorn*, *Lime-Tree*, and *Service*. I could find no Difference in Taste in *Mistletoe* growing on the Four first; these Barks having a Bitterness like *Mistletoe*, and also being Astringent; but no ways Acrid. But it grows on the Mucilaginous *Trees*, mention'd by Mr. Ray. The Vertues of the *Tree* and *Mistletoe* so much differ, that it cannot be better on one *Tree*, than another. I have tasted That on the *Oak* dry, but could find no Excellency in it above others. The Leaves and Wood taste Bitter, Astringent, Hot, and Acrid; by which

it is good for the *Epilepsie* : It must be given for Forty Days. It may cause Sweating in a *Fleurishe*. The Bitter-Astringency makes it good before *Ague-Fits*. The Green Roots of the *Mistletoe* go into the Bough a good way. Mr. *Placston*, of *Sheriff-Holes* in *Shrop-shire*, told me, That *Mistletoe-Berries* laid on the rubb'd-Bark of a *Tree*, will grow there. The Mucilage of the *Berries* put into Plasters, mollifies with *Rosin* and *Wax*, and ripens and draws much.

Ulmaria.

Meadow-Sweet : The Flowers, Leaves, and Roots, are Bitterish and Astringent ; with a strong Fragrant Smell. By the Astringency, it is *Styptick* in all *Fluxes* ; by the Fragrancy, *Cordial* in Wine and distill'd Waters ; and by the Bitterish Roughness, it is *Antifebrifick*, much of the Vertue of *Burnet*, and tastes like it. *Filipendula*, *Burnet*, and *Ulmaria*, are all of a like Nature.

Ulmus.

Elm : The Bark and Leaves are Mucilaginous, and Healing in *Mouth-Waters* ; and in *Burns*, Anodyne and Cooling. There is a little Bitterish Astringency in *Elm*.

Navel-

Part II. Spontaneous English Plants. 201

Navel-wort is Watrish, Slimy, and Bi-^{Umbilicus} ting; by which it is Diuretick, cures and ^{Veneris.} discusses *Inflammations*, *Erysipelas*, and *Strumas*. There is also in the Flowery Heads a Bitterish Astringency.

Nettle: The Yellow Roots are Sweet, ^{Urtica U-} Watrish, and Biting, and good Diureticks; ^{rens.} the Seed is Slimy, a little Hot, and Pectoral. The Leaves juyced, are good in *Hæmorrhages*, carrying off by *Urine* a great deal of *Serum*; and, by the Acrimony, opening *Obstructions*, which are the Causes of *Hæmorrhages*. Outwardly *Nettles* cure *Tumors*, fordid *Ulcers*, and *Gangrenes*.

THE

it is good for the *Epilepsie*: It must be given for Forty Days. It may cause Sweating in a *Fleurisfe*. The Bitter-Astringency makes it good before *Ague-Fits*. The Green Roots of the *Mistletoe* go into the Bough a good way. Mr. *Placston*, of *Sheriff-Holes* in *Shrop-shire*, told me, That *Mistletoe-Berries* laid on the rubb'd-Bark of a *Tree*, will grow there. The Mucilage of the *Berries* put into Plasters, molities with *Rosin* and *Wax*, and ripens and draws much.

Ulmaria.

Meadow-Sweet: The Flowers, Leaves, and Roots, are Bitterish and Astringent; with a strong Fragrant Smell. By the Astringency, it is *Styptick* in all *Fluxes*; by the Fragrancy, *Cordial* in Wine and distill'd Waters; and by the Bitterish Roughness, it is *Antifebrifick*, much of the Vertue of *Burnet*, and tastes like it. *Filipendula*, *Burnet*, and *Ulmaria*, are all of a like Nature.

Ulmus.

Elm: The Bark and Leaves are Mucilaginous, and Healing in *Mouth-Waters*; and in *Burns*, Anodyne and Cooling. There is a little Bitterish Astringency in *Elm*.

Navel-

Part II. Spontaneous English Plants. 201

Navel-wort is Watrish, Slimy, and Bi-^{Umbilicus} ting; by which it is Diuretick, cures and ^{Veneris.} discusses *Inflammations*, *Erysipelas*, and *Strumas*. There is also in the Flowery Heads a Bitterish Astringency.

Nettle: The Yellow Roots are Sweet, ^{Urtica u-} Watrish, and Biting, and good Diureticks; ^{rens.} the Seed is Slimy, a little Hot, and Pectoral. The Leaves juyced, are good in *Hæmorrhages*, carrying off by *Urine* a great deal of *Serum*; and, by the Acrimony, opening *Obstructions*, which are the Causes of *Hæmorrhages*. Outwardly *Nettles* cure *Tumors*, sordid *Ulcers*, and *Gangrenes*.

THE



T H E
Tastes and Vertues
O F
Plants in Gardens and Shops.

A.

Abrota-
num Fœ-
mina.

A.

LAVANDER-COTTON tastes Bit-
ter-Acid, with a *Sea-Worm-*
wood Smell; therefore it has the
Vertues of a *Wormwood*, and is
of the same Tribe. It's accounted good
for the *Stomach* and for *Worms*.

Abfinthi-
um Roma-
num.

Roman-Wormwood is of the same Taste,
Smell, and Vertue, as the *Common-Worm-*
wood; but more Pleasant, and less Earthy
or Crude.

Tree-

Part II. Plants in Gardens and Shops. 203

Tree-Wormwood: The Smell and Taste are like *Common-Wormwood*. *Abfinthium Arborescens*.

Acacia is Bitterish, Styptick, and good in *Fluxes*. It is the Juyce of a *Siliquose Plant*.

Bastard-Acorus is Hot, like *Ginger*: It is an *Acrid-Aromatick*. *Radix Acori*.

Agarick tastes Sweet-Bitter and Mucilaginous; it is piercing, by a little *Acrid*. It yields a *Resin*; and is gently Purgative of *Choler*, by its Bitterness; and of Water or Viscous *Phlegm*, by its *Resin*. *Agarick* is the *Fungus* of a *Turpentine-Tree*; but differs much from the Taste of *Turpentine*.

Maudlin is Bitterish, Aromatick, and Astringent; and therefore Cephalick and Vulnerary.

The *Chast-Tree* is Bitterish, Rough, Aromatick, Acrid, and of an *Agrimony* Smell. It is Aperitive, Diuretick, and Vulnerary.

Ladies-Mantle: The Root tastes Bitterish and Astringent, like *Potentilla*; and looks of the same Colour.

Winter-

Alkakengi. *Winter-Cherries*: The Leaves taste Bitter, Mucilaginous, and Biting; and therefore are an excellent Diuretick. The *Berries* are Acid and Bitter, and infus'd in Wine, or in Powder, are very Diuretick. The Leaves and Berries resemble *Solanum Lignosum*; the Bladders taste most Bitter. *Opiates* are Diuretick, by their Acrimony and Sliminess. The Smell in this *Plant* is not much.

Allium.

Garlick is of a strong rank Smell, very Acrid in Taste, and abounds with a Volatile Salt; by which it is Diuretick, Pectoral, Stomachick, and good against Infection of the *Plague*. It blisters the Soals of the *Feet*, if laid next to the Skin; and cures the *Dropsie*, infus'd in Beer. It is laid to the Soals of the *Feet* in *Chin-Coughs* and *Small-Pox*.

Aloes.

Aloes is Bitter, Sweet, and Mucilaginous or Gummy. Its Bitterness is like the Bitterness of a *Peach-Kernel*: By this it purges *Choler*, and opens Obstructions of the *Viscera*; cleanses away Viscid *Phlegm* from the *Intestines*, and corrects Acidity: For Purgers both stimulate; and act as Alterers. Outwardly *Aloes* cleanses by its Bitterness; and by its Gum-

Gumminess, stops *Bleeding*. The Green Leaves of *Aloes* taste Acid. *Aloes* smells like *Myrrh*.

Flower-Gentle: The Seeds and Leaves *Amaran-* are Astringent, and a little Acid. This thus, seems to me a *Dock-Taste*.

I observ'd an Acrimony in *Amaranthus*, (in all the kinds thereof:) Which makes me infer, That it may be of the *Nettle-kind*, rather than of *Blites* or *Atriplex*: But it is like *English Mercury*. It is very ungrateful to the *Stomach*.

Bishops-Weed: The Seeds are Sweet, Ammi. Bitter, Hot, Aromatick; Carminative, Diuretick, and Cephalick. It belongs to the *Fennil-Class*.

The *Bitter-Almond-Tree*: The Bark *Amygd-* tastes very much like the *Jesuits-Bark*, *lus Amara*. Bitter and Rough; and has a Gum in it. The Leaves are Bitter, Mucilaginous, and Rough, like the *Peach-Tree*. It is probably of the same Purgative Faculty, or gently Laxative. *Bitter Almonds* have the same Taste, and an Oyliness: The Oyl is good for *Ulcers*, cleansing and killing *Worms*. 'Tis also good in *Pains of the Ears*, and *Sun-Spots*.

The

Amygdalus Dulcis. The *Sweet-Almond-Blanch'd* tastes Sweet and Oyly; and yields an Oyl, which is good in the *Stoppage of Urine*, for *Expectoration of Phlegm*, and in *Pains of the Belly*, with Juice of *Limon*.

Anagyris. *Bean-Trefoile*: The Leaves taste Mucilaginous, Bitterish, and a little Biting. The Country-People use it as *Sena*; and it tastes like it. This has a *Pea-Taste*, and smells Oyly, as a *Bastard-Sena* does; which therefore Vomits much.

Anchusa. *Alkanet*: The Red Roots are Bitterish, Astringent, and a little Warm; by which, and by its thin colouring Parts, it is Diuretick and Aperitive; and by its Astringency, 'tis Vulnerary. It is a *Madder*, rather than a *Bugloss*.

Anethum. *Dill*: The Leaves and Seeds are Bitterish, Sweet, Hot, Aromatick, and (like *Fennil* in Taste, Smell, and Vertue) Carminative, and Diuretick: The Seeds are the same.

Angelica Arbore-scens. *Tree-Angelica* neither tastes nor smells so strong as *Ordinary Angelica*.

Garden

Part II. Plants in Gardens and Shops. 207

Garden-Angelica : 'Tis Sweet, Bitterish, Angelica and Aromatick in Taste and Smell ; there- Hortensis.
fore Cephalick, Carminative, Cordial,
Pneumonick, and Sudorifick. The Root,
Leaves, and Seeds have the same Taste
and Smell.

Aniseed : The Seed is Sweet, Hot, Bit- Anisum.
terish, and Aromatick in Taste and Smell ;
therefore Pectoral and Carminative ; the
Powder of the Seed being given to *Chil-*
dren for the *Colick*, or the Decoction of it
in Posset-Drink.

Smalledge is Sweet, Bitterish, Acrid, A- Apium
romatick, Diuretick, Pectoral, and Aperi- Hortense.
tive. It is of the *Fennil*-Class. *Smalledge*
is stronger than *Parsley* : The Seeds and
Roots are most us'd, and of the same
Taste.

Arba Venenosa Indica : This Tree smells Arba vene-
Fetid, as most *Poysons* do. nosa Indi-
ca.

Birthwort : The Root tastes nauseously Aristolo-
Bitter, and Mucilaginous : It smells like chia rotun-
Bryony ; and is of the same Vertue, Hy- da & lon-
sterick. Outwardly it is good for the *Itch*, ga.
cleanses *Wounds* and *Ulcers* ; and is us'd
in a *Pessary*. The Round is the hottest.

Double-

Armerius *Double-Sweet-Williams* are Sweet and
Hortensis. Bitter.

Afarum. *Afarabacca*: The Leaves are Hot, and very Acrid on the *Tongue*. The Powder of the Leaves makes a strong *Sternutatory*. If Nine Leaves be infus'd in Wine, and the Juyce squeez'd out, they Vomit strongly, and irritate the *Mouth* of the *Stomach*, as the Powder does the *Nose*. The Root is Bitterish, very Acrid, Terebinthinate, and Aromatick. One *Drachm* of it Vomits very well; a lesser Quantity is us'd, as a Diuretick; because *Afarum*-Roots smell of *Turpentine*, and have also something Fetid, like *Hellebore*: By This they Purge. The Leaves are like *Cyclamen*.

Asclepias. *Swallow-Wort*: The Leaves smell a little like *Solanum*.

Asphodelus *Asphodel*: The Leaves taste Sweet and Slimy.

After Atticus. *Star-wort* is in the Leaves Mucilaginous.

After Sero- *Blue-Starwort*, tastes Slimy, Bitterish,
tinus Fru- and Acrid; and smells Fragrant.
ticescens
Ceruleus.

Baccife-

Part II. Plants in Gardens and Shops. 209

Bacciferous-Orach tastes Mucilaginous, *Atriplex* and, like *Sorrel*, sowre in the Red Buttons: *Baccifera*; That Colour of Red will fail, though *Alum* be added in the Decoction. The Ripe Berries taste very Sweet.

Garden-Orach tastes somewhat like *Sorrel*, and smells like it. *Atriplex Hortensis*.

Note, That Redness in the Leaves or Stalks of any *Plants*, is a Sign of Acidity in the *Plant*.

Bears-Ears: The Flower smells Sweet, *Auricula* as *Cowslips*: The Green Leaves are Mucilaginous: The Roots are Hot and Acrid, like *Cowslips*, and Bitterish; with an Aromatick, Heady, and *Opiate* Smell.

Oranges: The Flowers are of a very *Aurantia* Fragrant Smell, somewhat like the *Lily Malus*, in Flower and Smell. They taste Bitterish, Pungent, and Sub-acrid; and therefore are Cordial and *Cephalick*. The Green Leaves are Bitterish and Astringent, with an Aromatick hot Taste and Smell; and are good strengthening *Stomachicks*.

B.

B.

Balsamita
major.

Coft - *Mary* hath a Bitterish - biting Taste, with an Aromatick-Balsam Smell; from whence it's accounted *Vulnerary*. It is us'd in distill'd Waters. By its Taste it is *Cephalick*, being Bitterish, and a little Acrid. It is us'd in outward *Balsams*.

Barba Jo-
vis.

Jupiter's Beard tastes Rough, and a little Hot; and seems to be of the *Vetch*-kind, by the Leaves, Flowers, and Taste.

Basilicum.

Basil is Bitterish, Hot, and Aromatick in Taste and Smell; which last is very strong, and therefore it is a very hot *Cephalick*. The Smell is compar'd to *Citrons*, or *Clovegilly-Flowers*; but very Heady; and is accounted hurtful, producing a *Phrensie*.

Bastatus
de Cinada.

Jerusalem - Artichook: The Root is Sweet, Astringent, and Watrish; the Leaves are Watry and Mucilaginous: By which Sweetness it is *Esculent*.

Pome.

Part II. Plants in Gardens and Shops. 211

Pomegranate-Flowers are Bitterish, Stry-Balaustioptick, and very great Astringents: The ^{rum Flores} Flowers will colour Red. They are boy'd in *Claret* with *Myrrh*, for putrid *Gums*, and loose *Teeth* in the *Scurvy*.

Spatling-Poppy: I tasted it at *Chelsey*, Behen Album being Sweetish and Crude, like *Lychnis*.

White Beets have a Crude Juyce, Sli-Beta Alba my, and a little Astringent: The *Red* is vel Rubra, most Astringent. I suppose that it is accounted *Nitrous* by its Bitterish Coolness, which is the Taste of *Nitre*. Both sort of *Beets* are Cooling, by their Crude Mucilage, and their Watrish Parts; and Deterging, by the Bitterish *Nitrous* Coolness. I have put the Root into my *Nose*, without Sneezing, or any Irritation. *Beets*, *Blites*, *Atriplex*, and *Bonus Henricus*, seem to agree in kind: And these are by Authors call'd, *Saporis fatui vel oleracei*.

Cotton-Seeds: They are Mucilaginous, Bombacis and chiefly us'd for their Mucilage. Semina.

Borrage: The Leaves, Flowers, and *Borrage*. Roots are Cool, Watry, and Mucilaginous. The Root is a little Bitter, and so comes near the Taste of *Nitre*: But I cannot

think that to be in any *Plant* call'd *Nitrous*; because it resembles *Nitre*, which is Cool, Bitterish, and Acid. There is, besides the former Tastes, a little grateful Acrid in *Borrage*; by which it is Cordial. The Mucilage is good for *Heats* and *Thirsts* in *Hecticks*, as *Bugloss* is. It is us'd in Decoction, and Juyce. But the Cordial Vertue is in the Flowers, and in their Conserve.

Botrys.

Oak of Jerusalem: The Leaves are Bitterish, Aromatick, and Watrish. The Seeds are most *Balsamick*, smelling like *Balsam of Tolu*; and therefore Cleansing, Aromatick, Terebinthinate, and Vulnerary in Syrup of the Juyce, and in distill'd Waters, for *Coughs* and *Consumptions*.

Brancha
Ursina.

Bear's-Breech is a Thistle; and for the bitter Slime, is us'd in *Clysters*; and may be us'd outwardly for the same, in Plasters against the *Gout*, and *Burnings*. There is a bitter Smoakiness in all Thistles; which inwardly makes them Nauseous and Purgative, and outwardly Discussing and Cleansing.

Brassica
vulgaris.

Cabbage: The Roots of the *Cabbage-Plants* are Acrid, and bite like *Horse-Radish*.

Part II. **Plants in Gardens and Shops.** 213

dish. The Leaves of the *Plants* bite less, when full grown; and by this latent Acrid, they stimulate when applied to *Blisters*. The full-grown Leaves are also Cool, Watrish, and a little Bitterish; by which Tastes it is Laxative; and for these it is also accounted a *Nitrous Plant*. The Ashes are very Caustick: The Seed is Bitter and Acrid. The Juyce cures *Warts*.

Colli-Flowers have the Flowry Part and Brassica Leaves very Acrid; and therefore are *An-Multifloris* *scorbutick*, as *Mustard-Seed*, and *Horse-radish*.

Satin-Flower smells and tastes like the *Bolbonach* *Cress-Plants*, and is of the same Vertue. *five viola*
The Seeds are most Acrid and Bitter. *Lunaria*.

Butchers-Broom: The Root is Sweet, *Bruscus*. Bitterish, and Acrid; by which it is *Diuretick*, *Pectoral*, and *Aperitive*. It belongs to the *Pea-Clafs*; and is like *Asparagus*. The Berries are sweet, and the new Sprouts are a little Aromatick.

Ox-Eye is Bitterish and Sub-acrid, like *Bupthalmum*. *Chamæmel*; and is of the same Vertue.

C.

C.

Calendula.

Marygold: The Flowers are Slimy, and very Hot and Burning in the *Throat*; by which they are Cordial, and expel *Measles* and *Small-Pox*, and cure *Fits of the Mother*, and *Obstructions of the Menfes*. They smell strong and unpleasant. The Green-Leaves are Mucilaginous and Acrid; and the Root Bitterish.

Cambogia.

Gum-Cambogia is an Inspissate Juyce, more Gummy than Resinous: It Purges and Vomits *Watry Serum* violently. I cannot discern the Taste; but in the *Stomach* the latent Acrimony of it immediately appears, because it works in so small a Dose; and is corrected by Acids. It is generally thought to be a sort of *Tithymal*; and by that Caustick Quality it purges.

Cortex Radicis Caparis.

Caper-Bark tastes very Acrid, by which it is Diuretick, and outwardly discussing in *Tumors of the Abdomen*. I cannot taste the Bitterness and Astringency, by which it is said to have many effects.

Panner

Part II. Plants in Gardens and Shops. 215

Pepper is very Burning and Hot in the *Capficum*
Cod, and Acrid and Aromatick when ripe. *Indicum*.

Grains of Paradise are Sweet, Hot, A- *Cardamo-*
romatick, Acrid, and Bitterish. *num majus*.

Lesser Cardamoms are Hot Aromaticks. *Cardamo-*
num minus

Carduus Benedictus : The Leaves are *Carduus*
of a Smoaky Bitter Taste, like the ordi- *Benedictus*
nary *Carduus*, with some Mucilage; by
which it is fit to produce Vomiting. It
cleanses the *Stomach*, and is good for *Fe-*
vers in the Bitter Drink. The Roots
have no Bitterness: And that there is a
Bloody Juyce in it, is observed in Mr.
Ray.

Carpo Balsamum is said to be Acrid and *Carpo Bal-*
Aromatick. *samum*
minus.

Seed of Bastard Saffron is Bitterish, a lit- *Carthami*
tle Acrid and Mucilaginous; by which it *Semen*.
purges a little. It is used in the Diseases
of the *Breast*, joyned with other Purgers.

Carraways : The Roots and Seeds taste *Carum*.
and smell Sweet and Aromatick, and are
Carminative and *Diuretick*. The Green-
Leaves smell like *Parsneps*. *Carum be-*
longs

longs to the Sweet, Acrid, and Aromatick-Class.

Caryo- *Clove-Gilly-flowers* : The Flowers are
phyllus A- Hot and Mucilaginous, and of a grateful
romaticus. Odor : The Flowers taste Bitterish, Sweet,
 and Acrid in the *Throat* ; in which the
 Cordial Vertue consists. The Root is
 Sweet, Bitterish, Acrid, and Slimy, like
 the *Clove-Flowers*.

Caryo- *Cloves* are Bitterish, Acrid, Hot, and
phylli. Aromatick in Taste and Smell. They
 are Cordial and *Cephalick*. And are the
 Fruit of a Tree.

Caryo- *Pinks* : They are Bitterish, Sweet-tast-
phyllus ed ; and have in the Flower an Aroma-
Hortensis tick Smell. They are of the nature of
minor. *Clove-Gilly-flowers*.

Cassia Lig- *The Bark of Cassia Lignea* is Acrid and
nea. Aromatick in Taste, like *Cinnamon*, and
 of the same Vertue.

Cassia Fi- *Cassia* : The Pulp is most used to keep
stula. the Body Laxative. It is very Sweet and
 Mucilaginous ; by which it is good in a
Cough : And is thereby also a Lenient
 purge in the *Stone* and *Hemorrhoids*.

Cedar

Part II. Plants in Gardens and Shops. 217

Cedar has a Fragrant *Turpentine-Smell*; *Cedrus* and it tastes Bitter, Astringent, and Acrid. *Virginiana*

The Greater Centaury: The Stalk tasted Centaure-Sweetish, Bitter, and Sub-aromatick. The *um majus* shape of the Leaf, and Taste, resemble *Jacoea*.

Onion is Biting, Mucilaginous, Acrid, Cepe. and of a rank Smell, like *Garlick*; Fuming up into the *Eyes*, like the Spirit of *Sal-Ammoniack*: therefore it is full of a Volatile Salt, with a rank Oyl. *Onions* are Roasted for breaking *Apostemes*; and are Infused and Distilled in *White-Wine*, for the *Stone*. Pounded with Salt, they are good for *Burns*, and the Biting of a *Mad-Dogg*. The Juyce is good for *Pains in the Ears*, and for *Shortness of Breath*. All these Effects are produced by the Taste and Smell above-mentioned.

China has no considerable Smell in the *China*. Root. It is of a dry Taste, a little Warm or Acrid. It is accounted a *Diaphoretick*, but is most properly an Astringent and Absorbent of Acids.

In the Decoction, *China* is a little Aromatick, Astringent, and Bitterish; but these Qualities are very obscure. It is a climbing

climbing *Plant*, as well as *Sarsaparilla*; and Thorny and Bacciferous.

China Chi-na. *China China:* The Stalk of the *Peruvian-Tree* has a *Terebinthinate-Taste*. The Leaves are a little Slimy and *Terebinthinate*. This I found in the *Physick Garden* at *Chelfsey*.

Cicera rubra. *Cicers* have a sweet *Pea-Taste*; and are *Diuretick*, and Lenifying the *Passages* by the *Mucilage*. They are a little Bitterish.

Cinara. *Artich oak:* The Leaves are very Bitter, Slimy, and Smoaky, like the *Carduus*. The Juyce cures *Wounds*. The Leaves are good in Oyntments for the *Worms*, and are great Cleanfers of *Ulcers*.

Cinnamomum. *Cinnamon-Bark* is Sweet, very Hot, Aromatick, and Astringent. It is a good *Stomachick* and *Cordial*.

Cistus Ledon. *Gummy-Cistus* has a very Rough Taste, feels Gummy, and has a crude Smell.

Cistus Ladanifera. *Ladaniferous Cistus*, or *Holy Rose*, feels clammy in the Leaves, and smells like *Labdanum*. It tastes *Terebinthinate*, and therefore is an excellent *Vulnerary*, put in

Part II. Plants in Gardens and Shops. 219

in *Balsams*; and inwardly in Distempers of the *Nerves*: It has the same Vertue as *Labdanum*.

Sage-leaved Cistus is only very Rough *Cistus* sal- and Bitterish, without any Gumminels; viæ folio. and is a *Vulnerary*.

Broad-leaved Cistus feels Clammy, and *Cistus folio* tastes Bitterish, Acrid, Aromatick, Resi- lato. nous and Rough. It smells like *Labdanum*; and therefore is inwardly and outwardly a *Vulnerary*.

Shrub-Trefoyl has a sweet *Pea*-Taste, *Cytisus*, and smells of the *Pea*-kind. Those *Plants* which have this sweet *Pea*-Taste, are fit for feeding Cattle, and breed most *Milk*.

Citron: The Leaves are Bitterish, Acrid, *Citria* ma- Aromatick, Astringent, and of the same lus. Fragrancy as a *Citron*; and are good *Stomachicks*. The Fruit and Pulp is very Acid and Aromatick. The Peel has the taste of the Leaf; and is Cordial, if distilled with Sack. The Syrup is a cooling Cordial, by its grateful Acidity. The Peels are kept Candied.

Citrus-Seeds are Cool and Mucilaginous, *Citrullus*.
and

and so are the Leaves and Fruit, which is also Sweet.

Clematitis. *Virgins Bower* is Bitter and very Acrid.

Colocynthis. *Coloquintida* is extreamly Bitter, and affects the *Mouth* with that Taste, when it is pounded; it is also very Acrid: By these Tastes it purges vehemently. It contains a *Resin*; and therefore has a Sliminess, as other Purgers.

Collutea. *Bastard-Sena* is Sweet, Bitterish, Slimy, and smells *Pea*-like, which the Cods and Flowers resemble. By the Oyly rankness, it vomits much, and purges churlishly.

Consolida Saracenica *Saracens-Confound*: The Leaves smell like *Elder*, and are Mucilaginous, Bitterish, a little Acrid, and Astringent; by which it is *Diuretick* and *Vulnerary* in Decoctions and Oyntments. This is mistaken for *Virga Aurea*, and is very different. This seems to be some sort of *Aster*, and not *Consolida*. It is that which is described in Mr. Ray, Hot and Aromatick. This is used for *Virga Aurea* amongst us.

Consolida Regalis. *Lark-Spur* is Sweet, and a little Acrid. The Seeds are in Cods, and taste of a *Pea*-Taste,

Part II. Plants in Gardens and Shops. 221

Taste; and may be something like *Columbine*, in Vertue.

Contryerva: The Roots have a very Contrayer-Acid, and Bitterish Taste; and smell like *va. Figg-Leaves*. It is *Alexipharmack* and *Sudorifick*. The Bitterness is very obscure. *Dioscorides* mentions the Smell.

Coriander-Seed is Sweet, Hot, Aroma-*Coriandri* tick, and Carminative. The Odor of the Semen. *Plant* is like the *Cimices*, Fetid: Mr. Ray. From the *Fætor* it is esteemed Malignant, and is corrected by *Vinegars*.

Buckshorn-Plantane: I tasted it in the *Coronopus* Garden at *Chelsey*, Watrish and Rough, like *Plantane*.

Jesuits-Bark: Besides a Woody and fusty Cortex Pe-Taste, it has a *Laurel*, Bitter, and Styp-*ruvianus*, tick Taste, without any sensible Acrimony. The Taste is very discernible in the Infusion; and it resembles a *Bitter Almond*, especially its Peel, and the Bark of that Tree. All other Trees of a *Laurel*-Taste, cannot but answer its Vertue; and are *Antifebrifick* by their Bitterness, preserving the mixture of the *Blood* from *Putrefactive Fermentations*; which are also
con-

considerably checked by the Astringency; which also causes a separation of those parts that are loose from the mixture of the *Blood*, and passes them off by *Urine*.

Costus dulcis & amara. *Ale-Cost* is Sweet, Bitterish, Hot, and Aromatick, and smells like *Orris*; and is very Acrid, especially the Bitter.

Crocus Hortensis purpureus, & luteus. *Garden Crocus, Yellow and Purple*, have Sweet, Slimy Roots, like *Saffron*.
Cubebæ. *Cubebæ* are very Hot, Acrid, Aromatick, Cordial and Carminative.

Cucumis Aspinus. *Wild-Cucumber* is very Bitter, Slimy, and Acrid, by which it purges violently. The Leaves and Roots are of the weakest Vertue. The Juyce lasts long, and is Inflammable; by which it's Resinous.

Cucumis Hortensis. *Ordinary-Cucumber*: The Leaves, Flowers, Fruit, and Seeds, are Watrish, Slimy, and Cooling; which is used in *Emulsions*.

Cucurbita. *Gourds* are Watrish in the Leaves, Slimy in the Seeds, and Sweet in the Pulp and Fruit; all Cooling.

Cuminum. *Cummin-Seed* is Sweet, Bitterish, Aromatick,

Part II. Plants in Gardens and Shops. 223

matick, and Acrid; with an Aromatick, unpleasant Smell. A good *Carminative*, *Pectoral*, *Diuretick* and *Uterine*.

Turmerick is nauseously Bitter and Carcuma. Acrid, like *Ginger*; good in the *Jaundice*, as an opening *Hepatick*. It colours Yellow.

Galingal long and round, or sweet *Cyprus*, *Cyperus* have a Bitter, Aromatick Taste, like *Galangus* & *langa*; and therefore are good for the *rotundus*. *Stomach* and *Nerves*: Both of them are Aromatick, like *Cedar*.

Cypress has an Astringent Bitterish *Cypressus*. Taste; and *Turpentine* Smell in the Leaves and Nutts.; by which it is *Vulnerary*.

D.

D*ittany* is of an Hot, Biting, Bitterish, and Aromatick Taste; and *Creticus*. a strong quick Scent, like *Penny-Royal*; but stronger, and therefore is of an opening *Cephalick* Vertue, like *Penny-Royal*; and is to be referr'd, with *Penny-Royal*,

Royal, to the *Cephalick*-Class of Bitterish Aromatick-Acrids. It is chiefly us'd to force *Labour*, it abounding with Volatile Oyl and Salt.

Dracunculus Hortensis. *Tarragon* is Sweet, Hot, and Acrid; and smells like *Fennil*, and is of the same Class and Vertue; and is eaten in *Sallats*.

Dracontium. *Dragons*: The Leaves taste at first Sweet; after a while very Acrid, like *Aron*; therefore it may be accounted good, as Volatile Salts, in *Infectious Distempers*. It is most us'd in distill'd Water. It is like *Aron* in its Vertues, being *Diuretick*, *Pectoral*, *Alexipharmack*, and *Antiscorbutick*; and has *Spots* in the Leaves; but is more Acrid than *Aron*, coming nearer to *Ranunculus* in its burning Heat. Outwardly it is good for *Fistula's*. Its Sharpness is corrected by *Vinegar*. *Galen* says, That it is Bitter and Astringent; and prescribes it for *Ulcers*.

E.

E.

THE *Juyce of Wild Cucumber* is *Elaterium*; extremely Bitter, and burns easily: It purges violently.

Dodder of Thyme tastes Bitterish and A-Epithyromatick, like *Thyme*; and has the same Vertue.

Garden-Rocket is very Acrid and Bitter. *Eruca Saffrisa* is very Acrid, and of a Strong, Acrid, Pungent Smell, and a little unpleasant. It is a *Cress* in Taste and Vertue, and is useful in *Dropsies*, and the *Scurvy*.

F.

F.

F*ennil-Giant*: The Plant tastes Bitter, like *Gum-Ammoniack*, smells a little Fetid, and has the same Vertue. The Sweet Taste is not very evident in the *Fetid Umbels*.

Fennil-Giant is an *Uterine* by the *Fætor*, and by the Bitter-Acrimony.

The *Figg-Tree*: The Leaves are of a *Ficus*.

Q

burning

burning hot Taste. The Ashes of the *Figg-Tree*, of *Spurge*, and of *Ash*, are more Caustick than ordinary Ashes of Plants; therefore there is a great difference in the *Lixiviums* of Plants, and in their *Salts*. It purges by its Caustick Quality. *Figgs* are Sweet and Luscious: They are us'd in the *Small-Pox*, and Diseases of the *Lungs*; and outwardly in *Pultesses*, for their Pulpy sweet Mucilage. The *Tree* being so Acrid, the *Fruit* probably partakes of it; whereby it becomes *Diaphoretick*, *Diuretick*, and *Purgative*.

Flos Africanus.

French-Marigold is of a strong, heady, *Marigold-Smell*; and tastes Bitterish, Slimy, Acrid, and stronger than ordinary *Marigolds*.

Flos Solis.

The *Sun-Flower* smells like a *Marigold*, tastes Bitterish and Acrid, and feels clammy, like *Marigolds*; and out of the Stalk and Flowers, a *Resin* sweats. In Taste, Colour, and Smell, it is like *Turpentine*; Mr. Ray.

Flos Adonis.

Adonis-Flower tastes very Acrid, as an *Anemone* or *Ranunculus*; and is call'd *Adonis-Flower*, or *Pheasant's-Eye*,

Femil:

Part II. *Plants in Gardens and Shops.* 227

Fennil: The Leaves, Seeds, and Roots ^{Foeniculum.} are of a Sweet, Acrid, Aromatick Taste, and of a strong Aromatick Smell. The Plant is *Diuretick*, *Pectoral*, *Carminative*, and good for the *Eyes* inwardly and outwardly; as also for discussing of Milky Tumors. The *Fennil*-Taste being most known of this kind, I call the whole Class by that Name.

Fenugræc: The Seeds are Mucilagi-^{Foenum} nous, Bitter, and of a *Pea*-Taste: It smells ^{Græcum.} strong, oily, and loathsom. It mollifies *Scirrhosties*, and lenifies and discusses the Inflammations of the *Eyes*. An Oyl may be press'd out of the Seed, and a Mucilage drawn by Decoction. It is Fetid, and the Meal of the Seed is us'd in *Cataplasms*.

Bastard-Dittany has a Bitterish and ve-^{Fraxinella.} ry Acrid Taste, and strong Aromatick Smell, like *Rue*.

G.

G.

Galanga
major.

G *Alangale* is Biting and Hot, like *Ginger*: It is a good Aromatick, Carminative, and Cordial.

Galbanum. *Galbanum*: The Plant tastes Bitter, like *Gum-Galbanum*; smells a little Fetid, and has the same Vertue.

Galega.

Goats-Rue is Mucilaginous, Bitterish, and a little Hot, and tastes of a *Pea-Taste*, with an oyley strong Smell. It is useful outwardly against *Gangreens*, and foul *Ulcers*. It seems to be an *Anodyne*. It is improperly us'd inwardly for Infectious Distempers, being very nauseous to the *Stomach*, and by its Taste a *Purgative*.

Gallæ.

Gauls are very Rough and Bitterish: They are given in Drink to stop *Blood*, and all *Fluxes*. Outwardly they are good in *Ulcers* and *Tetters*, and are strong Repellers and Driers.

Genista Hi-
spanica.

Spanish-Broom has the Taste of Ordinary *Broom*: Though the Flowers smell well, yet it is of the Bitterish *Pea-Clafs*.

Gentian-

Part II. Plants in Gardens and Shops. 229

Gentian-Root is very Bitter; it is good *Gentiana*. infus'd in Wine, or in Powder, for the *Stomach*, and in *Obstructions of the Liver*, and *Intermitting Fevers*, to preserve the Mixture of the *Blood*, and to hinder Putrefaction. It is a good *Uterine*. The Root is also Slimy, and a little Acrid. It may belong to *Aristolochia*; and therefore Laxative. By the Bitter-Acrid, it is *Alexipharmack*, and good in the Biting of a *Mad Dogg*.

Gentianella: The Leaves are Bitter and Mucilaginous; by which Taste, and the la. Flower, it seems to belong to the *Aristolochiæ*.

Tree-Cranes-bill has a Fragrant *Tur- Geranium* *pentine-Smell*, like other *Cranes-bills*. *Arbore-*
scens.

Spanish-Cudweed is of a Bitterish Astringent Taste, like the *Ordinary Gnaphalium* *Hispanum*: It smells strong, somewhat like *Oyl* *nicum*. of *Amber*; therefore *Cephalick*, and a good *Vulnerary*.

The *Pomegranate-Tree*: The Bark is Granat rough-tasted, hot like *Orange-Peel*, and *Malus*. biting. The *Pomegranate-Leaves* taste Rough, and a little Aromatick, with a

fusty Savor, resembling *Hounds-Tongue* :
When rubb'd, the Leaves smell Fusty, like
Catts-Piss.

Gratiola. *Hedge-Hyssop* tastes Sweet, Bitterish,
Sub-acrid, and Slimy; and is very *Pur-*
gative.

Grossularia. *Goosberries* : The Bark is very Rough,
Bitterish, and Astringent : The Berries are
Sweetish and Acid, and the Leaves Acid
and Rough.

Guajacum. *Guajacum-Wood* : The Bark is Bitter
and Astringent. It is us'd in *Sweating*
Decoctions for the *Pox*. Authors say, It
has an Acrimony, by which it produces
these Effects; which is probable, because
it is Resinous, and like *Ash-Tree* in Leaves
and Virtue. If the *Gum* be extracted by
Spirit of Wine, the *Wood* yields only an
Acid Spirit in Distillation.

H.

H.

Hedys-
rum Clype-
atum flore
Purpureo.

S *panish Honey-Suckle* tastes Rough, of
an Oyly *Pea-Taste*. It is a *Legu-*
minous Plant.

White-

Part II. Plants in Gardens and Shops. 231

White-Hellebore: The Root is very *Helleborus*
Bitter and Acrid; by which it is *Sternu-* *Albus*.
tatory, and vomits violently, and causes
a *Strangulation*, and great *Flux of Spittle*
and *Convulsions*, and *Vomiting of Blood*. It
is best given on a full *Stomach*, to defend
the *Membranes*. It is given to *Mad Men*
by *Quacks*, for a strong *Vomit*. This is
bitterer than *Black Hellebore*; and the
Malignity is best corrected by *Vinegar*.
Both *Hellebores* are us'd outwardly for
the *Itch*, *Scald-Heads*, and *Fistula's*.

Noble - Liver-wort: The Leaves are *Hepatica*
Rough, and a little Sweet. It is rather *Nobilis*.
an *Astringent*, than an opening *Medicine*.
It is useful, as a *Vulnerary*; and may be
put into the *Pea-Class*, being *Sweetish*
and *Rough*, like some *Trefoils*.

Doria's Wound-wort tastes *Bitterish*, *A-* *Herba Do-*
stringent, *Terebinthinate*, and *Aromatick*, *ria*.
like *Solidago Saracenic*a; and therefore is
Vulnerary and *Diuretick*.

Rupture-wort is *Bitterish* and *Astringent*, *Herniaria*.
like *Polygonum*; and is a *Vulnerary* in *Rup-*
tures. It has some *Acrid*, by which it is
Diuretick; *Mr. Parkinson*.

fusty Savor, resembling *Hounds-Tongue* :
When rubb'd, the Leaves smell Fusty, like
Catts-Piss.

Gratiola. *Hedge-Hyssop* tastes Sweet, Bitterish,
Sub-acrid, and Slimy ; and is very *Pur-*
gative.

Grossula-
ria. *Goosberries* : The Bark is very Rough,
Bitterish, and Astringent : The Berries are
Sweetish and Acid, and the Leaves Acid
and Rough.

Guajacum. *Guajacum-Wood* : The Bark is Bitter
and Astringent. It is us'd in *Sweating*
Decoctions for the *Pox*. Authors say, It
has an Acrimony, by which it produces
these Effects ; which is probable, because
it is Resinous, and like *Ash-Tree* in Leaves
and Virtue. If the *Gum* be extracted by
Spirit of Wine, the *Wood* yields only an
Acid Spirit in Distillation.

H.

H.

Hedyfo-
rum Clype-
atum flore
Purpureo.

S *panish Hony-Suckle* tastes Rough, of
an Oyly *Pea-Taste*. It is a *Legu-*
minous Plant.

White-

White-Hellebore: The Root is very ^{Helleborus} Bitter and Acrid; by which it is ^{Albus.} Sternutatory, and vomits violently, and causes a *Strangulation*, and great *Flux of Spittle* and *Convulsions*, and *Vomiting of Blood*. It is best given on a full *Stomach*, to defend the *Membranes*. It is given to *Mad Men* by *Quacks*, for a strong *Vomit*. This is bitterer than *Black Hellebore*; and the *Malignity* is best corrected by *Vinegar*. Both *Hellebores* are us'd outwardly for the *Itch*, *Scald-Heads*, and *Fistula's*.

Noble-Liver-wort: The Leaves are ^{Hepatica} Rough, and a little Sweet. It is rather ^{Nobilis.} an Astringent, than an opening Medicine. It is useful, as a *Vulnerary*; and may be put into the *Pea-Class*, being Sweetish and Rough, like some *Trefoils*.

Doria's Wound-wort tastes Bitterish, A-^{Herba Do-}stringent, Terebinthinate, and Aromatick, ^{ria.} like *Solidago Saracenica*; and therefore is *Vulnerary* and *Diuretick*.

Rupture-wort is Bitterish and Astringent, ^{Herniaria.} like *Polygonum*; and is a *Vulnerary* in *Ruptures*. It has some Acrid, by which it is *Diuretick*; Mr. Parkinson.

**Hermoda-
cylus.**

Hermodactyls: The Roots are without Smell, of a mealy Taste, and a little Hot. They purge *Phlegm* in Diet-Drinks, and compounded Powders. They are *Bulbous* Roots; which are generally Mealy and Mucilaginous, and therefore very Nauseous. It is described to be Milky, and to be the *Syrian Colchicum*. That there is an Acrimony in the Milk, it is probable; for some sort of *Colchicums* are venenate, and strangulatory: And I suppose this to have some Heat or Acrimony, like *Orris-Root*; by which it purges.

**Hesperis
Pannonica.**

Dames-Violets: Their Taste is like *Rocket*, and the Vertue the same.

**Hormi-
num Scla-
ra dict-
um.**

Clary: The Leaves are Watrish, and a little Bitter and Hot. The Flowers are also a little Glutinous and Bitterish; but have a strong, piercing, Aromatick Scent; whose Parts are so thin, and fine, that they scarce sensibly affect the Taste, unless it be with a Smatch, like *Frankincense*. The Seed is slimy. *Clary* is a very good *Cephalick* and *Uterine* in *Fits of the Mother*. It is infus'd in Wine, for Distempers of the *Eyes* and *Head*. It is a *Vulnerary*, and good for *Weakness in the Back*.

Hyssop:

Hyssop is Bitterish, Aromatick, and A-Hyssopus. crid in Taste : It is, by the Taste and Smell, of the *Cephalick*-Class ; but is chiefly us'd as a Cleansing and Opening *Pectoral*. It is *Diuretick*, as most *Medicinals* be, evacuating the *Lympha*.

I.

THE Roots of *Jalap* taste clammy in the *Teeth*. The *Resin* smells Sub-acid. It purges *Water* and *Phlegm*. Vide the Class of *Purgers*. This *Resin* is best ground with *Oyl*, to make it dissolve better in the *Body*, and stick less to the *Gutts*.

Jalap irritates the Throat and Mouth ;
Dr. Grew.

Jasmine : The White Flowers are Bit- *Jasminum* ter, and very Acrid ; the Green Leaves *vulgare* are the same, but less Bitter and Hot. The Flowers have a great Fragrancy. It is of the *Pea*-Class, by the Taste of the Root ; and the Seeds are said to be like a *Lupin*.

Indian-Jasmine : The Leaves have a *Jasminum* *Laurel*-Taste ; but the Yellow Flowers *Indicum* smell very Sweet.

Sciatica-

- Iberis.** *Sciatica-Cresses* has a pungent Taste, like *Cresses*; and is of the same Virtue.
- Imperatoria.** *Master-wort* is Bitterish, and extremely Acrid and hot in Taste. It smells somewhat like *Angelica*. It is *Alexipharmack*, *Carminative*, *Cephalick*, and a good *Masticatory*.
- Imperialis Corona.** *Crown-Imperial*: The Leaves have a little sweetish Taste: It smells like a *Fox*; and may be referr'd to the *Lily-kind*. It may be put into *Nervine Oyntments*.
- Indigo.** *Indigo* is prepar'd out of a Plant, which is of the *Leguminous* kind; and tastes Bitterish, of a *Pea-Taste*; by which it is *Diuretick*, as *Dr. Lister* hath experienc'd it.
- Iris.** *Orris*: The fresh Root tastes Sweet, Bitterish, and Burning; and smells most Fragrant, when dry; but fresh, like *Liquorish*. Powder'd, it is Hot, Aromatick, and Bitterish. The Juyce hath a very hot Acrimony; half an Ounce is given to purge in the *Dropfie*. The Powder of the Root is *Pectoral*, and *Cephalick*. Outwardly it is us'd for the *Scaling of Bones*.
The Roots of *Orris* give a Fragrancy to Beer; and the fresh Roots are boyld in

in Broth for the *Dropsie*. *Chamædry*s has the same Taste.

Jujubs have a luscious sweet Taste, like *Jujubæ*. *Raisins*; and are *Pectoral* by their sweet Mucilage.

L.

L.

L *Ettuce*: The Root is Milky, Bitter, *Lactuca*. and Acrid; the Leaves are Watry, Bitterish, and Mucilaginous. The Root smells something like *Poppies*. The whole Plant is *Anodyne* externally in *Inflammations*. The Seeds are good in *Spitting of Blood*, and *Sharpness of Urine*. The distill'd Water cools much; it loosens the *Belly* by the bitter Slime.

Job's-Tears tastes Sweetish, like *Grass*: *Lacryma*. The Stony-Seeds are *Diuretick*, like *Grom-Jobi*. *well-Seeds*, by their Stoniness.

Lesser-Burdock tastes Bitter, Acrid, and Lappa mi-] Aromatick, like *Elecampane*; and is of nor. the same Virtue, *Hepatick*, *Diuretick*, *Pectoral*, and *Sudorifick*, by the Bitter-Acrimony.

Lasfer-

*Laserpiti-
um.*

Lasfer-wort smells Aromatick, tastes Sweet, Acrid, and Aromatick; and has the Virtue of the *Fennil-Class*.

Laurus.

The *Bay-Tree*: The Berries are very Bitter and Acrid, and of an hot Aromatick Smell and Taste. The Leaves are of the same; but Milder, Bitterish, and Aromatick. The Leaves are us'd in *Baths*, for Distempers of the *Nerves*, and in hot *Oyntments*. The Berries are *Carminative*, *Hepatick*, *Diuretick*, and *Uterine*. The Bark of the Root is Bitterish, Astringent, and lesser Acrid; but very Rough. The *Bay-Tree* may be placed amongst the *Aromatick-Turpentine*s.

*Laurus Ce-
rasus.*

The *Laurel-Tree*: The Bark of the Root tastes very Bitter and Astringent, like *Bitter-Almonds*. The Leaves have the same Taste. I boyld the Leaves of *Laurel*, and a great piece of the Root in Potage; but it neither purged nor vomited my Dogg. A little Heat may be perceiv'd in the Leaves. The Leaves, when rubb'd, smell like a *Peach-Kernel*. There are many Trees of this Taste. The Leaves of the *Triumphant-Laurel* are Rough, Bitterish, and of a *Laurel-Taste* and Smell. *Laurel* is not us'd in *Physick*; but the Leaves

Part II. Plants in Gardens and Shops. 237

Leaves seem proper for *Wound-Oyntments*, by their Bitter-Astringency.

Lavander tastes very Hot, Bitterish, and Aromatick in the Flowers and Leaves. *Lavandula.*
The *Spirit* is most us'd as a *Cephalick*; and the whole Plant outwardly in *Baths*, for *Paralytick* Cases. The Seed is us'd in Difficulty of *Labour*.

The *Mastich-Tree Wood* rubb'd, smells of *Mastich*, and tastes Dry and Woody. *Lentiscus.*
The Decoction is us'd in *Catarrhs*, as *Mastich*. It is reputed to be very Astringent, and good in all *Fluxes*. There is a Gumminess in *Mastich*, besides the *Resinous Turpentine-Smell*.

Snow-Flower: The Root is Bitter, Acrid, and Slimy; and of an *Elder-Smell*, in the Leaves. *Leucoium Bulbosum Præcox minus.*

The *Garden-Stock Gilliflower* is Bitterish, Acrid, and Mucilaginous; and belongs to the *Cress-Tastes*. 'Tis a good *Diuretick* and *Antiscorbutick*. *Leucoium Sativum.*

Lovage tastes Sweet, Bitterish, Acrid, and Aromatick; especially in the Smell, it is a very strong Aromatick. It is *Diuretick*, *Levisticum*

retick, Pectoral, and Carminative; outwardly in Baths, as an Uterine; inwardly an Opener of all Obstructions; and us'd for Cramps, and expelling the Secundines.

Libanotis. *Herb-Frankincense* has a Sweet, Bitterish, Acrid Taste, and Aromatick Smell, as other *Umbells*; and has the same Virtue.

Lilac. *Blue-Pipe* is very Bitter and Acrid, and of an Aromatick Smell; belonging to the *Jasmins*, and differing in Taste from the *Syringa*.

Lilium Commune. *Common White-Lilies:* The Flowers smell Sweet, but Fainty. The Flowers, Roots, and Green Leaves are Mucilaginous and Bitterish. The Flowers are Anodyne and Mollifying, by the Mucilage; and by the strong Smell, discussing. The Roots are us'd in *Pultesses*, for ripening *Apostems* by the Mucilage, and by the strong drawing. It has some strong hot Parts, discernible in the Smell of the Flowers.

Limonia Malus. The *Limon-Tree:* The Leaves are Bitterish, Aromatick, and Acrid, like the Peel. As pleasant a Cordial-Water may be distill'd from them, as from the Peels, with Wine.

Lupines

Part II. Plants in Gardens and Shops. 239

Lupines have a Sweet-bitter Taste, like *Lupinus*.
Pease. The Meal is us'd in *Pultesses* and
Cataplasms, for the *Worms*; and in a *Pes-*
sary, mixt with *Hony* and *Myrrh*. Out-
wardly by their Bitterness they are *Cos-*
metick, cure *Ulcers* and *Scabs*, and discuss
Scrophulous Tumors.

Rose-Campions are very Rough, Astring- *Lychnis*
gent, and *Vulnerary* in the Leaves; the *Coronaria*.
Root is Bitterish, Pungent, and a little
Sweet; by which it may be referr'd to
the Class of the *Caryophylli*. The Seed
is very Acrid, as *Galen* observ'd.

Catch-Fly is of a crude Taste and Smell, *Lychnis*
Bitterish and Slimy. *Viscosa*.

M.

M.

M *Ace* is of an Aromatick Smell, *Macis*.
and of a Bitterish, Aromatick,
and Hot Taste; yielding an Oyl
very Stomachick and Cordial. It is like
Nutmeg, but not so strong.

Marjoram is Bitterish, Hot, and of an *Majorana*.
Aromatick Taste and Smell. Its *Chymi-*
cal

cal Oyl is *Stomachick* and *Cephalick*. The Juyce, with the Juyce of *Primrose-Roots*, put into the *Nose* with a *Thimble*, exceedingly evacuates from the *Nose* and *Throat*, in the *King's-Evil*, and other Distempers of the *Head*.

Malva Arborea.

Holy-Hock: The Flowers are Biting, Mucilaginous, and of a stronger Vertue than *Mallows*; fit only for outward Mol-
lifying and Discussing.

Malus.

The *Apple-Tree*: The Bark is Bitter-Sweet and Astringent. The *Codling-Bark* is more Sweet than Bitter.

Malus Citria.

Citron hath a fragrant and grateful Acidity in the Fruit, which is Cooling in *Fevers*. The Peel is Bitterish, Hot, and Aromatick; and so are the Leaves. The Syrup of *Citron* is most us'd; and the Spirit distill'd with *Sack*, from the Peel.

Malus Cotonca.

Quince-Tree: The Bark and Leaves are moderately Astringent; the *Quince* Rough and Acid. It is good, as an Astringent; and may be us'd, instead of the *Mastich-Tree*, for the Astringency. The Fruit hath an Aromatick Astringency, for the *Stomach*. A *Quiddany* is made of the Fruit; and

Part II. Plants in Gardens and Shops. 241

and a *Wine* as pleasant as *Canary*, of the Juyce.

Apricock-Tree: The Bark is Rough *Malus Ar-*
and Bitter, the Leaves are Rough and *meniaca*.
Sourish, and the Fruit somewhat Aromatick:

Peach-Tree: The Bark is very Rough *Malus Per-*
and Bitter, the Green Leaves are Bitter *fica*.
and Slimy, with Astringency, and the
Flowers Bitter and Slimy. The Syrup of
them is us'd for the *Worms*; and so are
the Green Leaves, boyld in Milk. *Peach*
is of a *Laurel-Bitter*, like the Bitter-*Al-*
mond-Tree; and has a *Gum* in it. The Fruit
tastes Watrish, Slimy, and Grateful.

Mustich-Thyme flies up, with an Aro- *Marum*
matick Pungency, into the *Nose*, like *Spi- Syriacum*.
rit of *Sal-Ammoniack*. The Taste is Bit-
terish, and very Acrid; and therefore an
excellent *Cephalick*. By the Oyly Volatile
Salt, it is a good *Sternutatory*.

Feaver-few is very Bitter, Biting, and *Matricaria*
of a strong Aromatick Smell. It is out-
wardly us'd in *Baths* for the *Womb*, and
for *Fessaries*. It smells like *Camphore*;
and the distill'd Water is us'd for *Freckles*,

R

and

and *Hysterical Women*. The Juyce is us'd for the *Shingles*, and *Agues*; and is boyl'd in Posset-Drink, to promote *Sweating*; and in *Pultesses*, to hard *Breasts*. By its Bitterness, it is *Emmenagogue*; and by its Acrimony, and being Aromatick, it is *Diuretick* and *Cephalick*; as well as, by its strong Smell, *Hysterick*.

Mechoacanna.

Mechoacan is Gummy and Clammy in the *Teeth*, like *Jalap*; but of no considerable Taste. The Root looks like *Bryony*; but is not Bitter. It purges *Phlegm* and *Water*, as *Jalap* does, by the latent Acrimony of the *Resin*, and the clammy Gumminess. The fresh Stalk cut, yields a *Milk*; and the Root, a *Resin*. *Margravius*.

Melanthium Americanum
Pimpinellæ folio.

American Fennil-Flower: I tasted the Liquor in the Flower, which had the exact Taste of *Honey*. This Liquor sweats from the proper Vessels of the Plant, and is its proper Oily Juyce: And from such Juyces, *Bees* gather *Honey*.

Melo.

Melon: The Seeds are Cool and Mucilaginous; the Pulp, Slimy, and somewhat Aromatick, like *Musk* in *Musk-Melons*; and of a sweet Taste. This Crude Nourish-

Part II. Plants in Gardens and Shops. 243

Nourishment is good for *Hectical Bloods*, which cannot bear Acids. These Pulpy Fruits are apt to putrefie in the *Stomach*, and to produce a *Cholera*: An *Emulsion* of the Seeds is safer in *Fevers*, *Coughs*, *Sharpness of Urine*, and *Hecticks*, by the Crude Sliminess and Oyliness tempering Acid Salts.

Balm is Bitterish, Acrid, and of an A-Melissa.romatick Taste and Smell, like *Citron*: It is therefore Cordial in Spirit, Syrup, Wine, distill'd Water, and Conserve. Drunk like *Thea*, it is good for *Melancholy*.

Spear-Mint is Bitterish, Acrid, Aromatick, Astringent, and a good *Stomachick* in Juyce, Spirit, distill'd Water, Wine, and Conserve. The *Hart-Mint* smells most Cordial, and tastes most Aromatick; and yields a pleasant Water. The Oyl is extracted in Distillation of the Simple Water. The Astringency is useful to strengthen the *Stomach*, and stop *Loosenesses*, the *Whites*, and *Vomiting*. The Acrid-Aromatick outwardly discusses coagulate Milk, and inwardly is Cordial.

Garden-Mercury is of a Crude Juyce, like *Mercurialis*; by which it is Cooling and Emollient.
R 2 Medlar.

Mespilus. *Medlar-Tree*: The Leaves and Bark are Astringent and Bitterish: The Fruit is Acid and Astringent, and good in all *Fluxes*.

Meum Athamanticum. *Spigal*: The Roots are Bitter, Sweet, and Aromatick, with a *Mithridate-Flavor*, like *Petasitis*. It is us'd as an *Alexipharmack*, *Diuretick*, and *Hysterick*. It's like *Dill* in Vertue, *Carminative* and *Pectoral*.

Mezereon. *Mezereon-Tree*: The Leaves and Bark are very Hot and Burning; and therefore Purgative. The Flowers have a sweet *Lily-Smell*, but the Bark an *Elder-Smell*. The Heat lasts long in the *Mouth*.

Mirabilis Peruviana. *Marvel of Peru* is of a *Solanum-Smell* and Vertue. The Root purges as strongly as *Jalap*; but differs from it, by the *Opiate Faculty*. The Root tastes Slimy, Acrid, and Bitterish.

Moly. *Moly* smells strong, and tastes like *Garlick*; and therefore has the same Vertue.

Morus. *Mulberry-Tree*: The Bark is Bitterish, Astringent, and Hot; the Leaves Mucilaginous and Bitterish. *Mulberries* smell Strong,

Part II. Plants in Gardens and Shops. 245

Strong, and taste Sweet, Acid, and Slimy; and are therefore good for *Sore Mouths* in Syrup. The Bark of the Root is accounted Purgative. Ripe *Mulberries* make a good *Wine*.

Myrobalanes are Sweet, Bitterish, Stryp-Myrobaltick, and Slimy; by which they purge *ni. Cholera*, as Bitter-Stryptick Slimes do.

Myrtle-Tree: The Leaves are Bitterish, Myrtus. Rough, Aromatick, and Acrid; and of a strong Fragrant Smell. It is *Stomachick*, *Cordial*, and *Diuretick*; and outwardly *Vulnerary*. The Astringent Oyl is made by infusion. The Flowers have the same Smell and Taste.

N.

N.

H *Elmet-flower*, or *Monks-Hood* tastes *Napellus*. very Acrid, and burns the *Mouth*. It is accounted a *Poyson*, causing *Straitness of Breath*, *Pain at the Stomach*, *Loss of Sight*, with *Giddiness*, and a *Delirium*. I gave an handful of Leaves and Roots boyld to my Dogg, which made no sensible Alteration in him. This is an *Aconite*; and has Black Roots.

R 3

Indian-

Nasturtium Indicum.

Indian-Cresses: The Leaves are very Biting, like *Mustard-Seed*, and Slimy; and so are the Flowers; which, eaten with Meat, are *Antiscorbutick*. The Seeds are pickled, like *Capers*. An *Antiscorbutick Oyl* may be made by Infusion of the whole Plant in Oyl, for *Scald-Heads*, and *Scorbutick Pains*.

Nicotiana.

Tobacco: The Leaves are Biting, Acrid, Bitter, and Mucilaginous; by which it vomits and purges violently. It cleanses *Ulcers*, and heals *Wounds* and *Burns*, diffuses *Tumors*, and allays *Pains*, by the *Solanum-Smell*, which I perceiv'd about the Flowers: But it produces *Giddiness*, by its Acrimony; by which it causes *Sneezing* in Powder, and evacuates a *Lympha* from the *Glandules* of the *Mouth*, if chew'd. It's useful to *Hydropical* Persons. An Oyntment is made of it. The Infusion of the dry Leaves in Water, cures *Tetters*.

Nigella Romana.

Fennil-Flower tastes Sweet and Hot, like *Fennil*, but of no Aromatick Smell. We call it *Ruffling Dick*. By the Taste it is *Diuretick*.

Nutmeg

Nutmeg is of a Fragrant, Oyly, *Tur-Nux Mos-*
pentine-Smell; and yields Oyl by Expres-
sion and Distillation. It has a Biting, A-
romatick, Bitterish Taste; and is *Diure-*
tick, Cephalick, and Cordial.

O.

O.

Rose-Bay is of a crude Smell, and Oleander.
very Rough and Bitter, like *Lau-*
rel. I cannot perceive any *Lethi-*
ferous Quality in it.

Rice yields a Nutritive, Slimy, and Sweet Oriza;
Meal. It is us'd in Diet; and is something
Astringent in *Fluxes*, by the Meal.

P.

P.

CHRIST's-Thorn is like *Haw-Paliurus.*
thorn in Taste, in the *Diuretick*
Vertue of the Berries, and in the
Astringency of the Bark.

The *Garden-Poppies Milk* is very Bit-Papaver.
ter and Acrid, and of an Offensive, Fe-

R 4

tid,

tid, and Heavy Smell; from which *Opium* is made. I believe a *Tincture* of the *Poppy-Roots* may be useful: And an Oyl may be Expressed from the Seeds.

Pepo.

Pompions are of a Mellowy Smell, and of a Watry, Slimy Taste; which is also the taste of the Seed and Leaves. They cool *Inflammations*. A Water may be distilled from them. The Flesh of the Fruit is Sweet, of a Cool, Crude, and Waterish Nourishment. The Seeds are *Diuretick* by the Oyliness.

Perfoliata.

Thorow-Wax tastes Terebinthinate, Rough and Bitterish, feels Clammy, if rubbed; and is of a low Terebinthinate Smell. The Root tastes Terebinthinate, Bitterish, and Astringent. It is an excellent *Vulnerary*; and is most us'd in *Ruptures*.

Petroselinum.

Parsley is Sweet, Hot, Pungent, Bitterish, and Aromatick. The Seeds and Leaves have the same Taste. The distilled Water and Seeds are good for *Wind*; and are *Carminative*, *Diuretick*, and *Pectoral*.

Petroselinum Macedonicum.

Macedonian-Parsley: The Seeds are Bitterish, Sweet, and Acrid; and of a *Parsley-Taste* and Vertue.

Sow-

Sow-Fennil is Pectoral by its Sweet-^{Peucedan-}ness; but by the Acrimony, Bitterness,^{num.} and *Fætor*, very Cleansing; and by the same, it is *Hepatick*, *Uterine*, *Diuretick*, and *Nervine*. A Conserve is made of the Roots. *Sow-Fennil* is outwardly a good Cleanser and Discusser in *Ulcers* and *Tumors*.

Kidney-Beans have a sweet *Pea-Taste*; *Phaseolus*; and are for Nourishment chiefly.

Mock-Privet and *Alaternus* are of a *Lau-Phlliryea*; *rel-Taste* and *Vertue*.

The *Pine-Tree*: The Leaves are of a *Pinus*; Terebinthinate-Smell and taste Bitterish, Rough, and Sub-acid. The *Pine-Kernels* taste Acid and Terebinthinate; the *Nuts* are very much Astringent in Taste, and Terebinthinate in Smell: They are excellent in *Spittings of Blood* in Powder, and boyl'd in Drink.

Pepper is very Acrid, Aromatick, Hot, Piper. Burning, and Bitterish. A *Tincture* with *Spirit of Wine*, heats the *Stomach*, and is *Uterine*. If Fourteen Corns be given before the *Quartane Ague*, they throw off the Fits sometimes. It has a very hot
Oyl

Oyl in it, and Volatile Salt, by the Pungency.

Pistacia. *Pistache-Kernels* are Bitterish, and of an Aromatick, *Turpentine* - Taste and Smell: They are good *Pectorals* and *Diureticks*.

Pisum. The *Wing'd-Pea* has a Bitterish *Pea*-Taste.

Planta Sensitiva, five Herba viva The *Sensitive-Plant* tastes only Sweet and Rough; so that the Motion of it depends on the *Fibrous* Contexture of the Plant, and not on any *Spirituos Particles*. It contracts it self at any Touch, and at *Sun-Set*.

Planta Humilis. The *Humble-Plant* tastes Mucilaginous and Sweet: I tasted It and the Former at the latter End of the Year: They both are of the *Pea*-Class; and are said to be *Siliquose*.

Platanus. The *Plane-Tree*: The Leaves and Bark are very Rough, like a *Maple*, and Bitterish.

Pœonia Mas. *Pœony*: The Green Leaves are Bitterish and Astringent: The Fresh Roots are Sweetish,

Sweetish, Hot, and Unpleasant in Taste, and smell like Green *Wallnut*-Peels; the Dried are Bitterish, with great Astringency, and somewhat Fetid: By which the Plant is useful in *Convulsions*, in Syrup of the Flowers, in which the *Factor* is most, and in distill'd Water of them. The Seeds are Bitter and Rough, and of an hot Taste, of some Fetid thin Parts. The hard Husks may do some good to Acids in *Convulsions*, as *Absorbers*. I cannot think *Pæony*-Root fit for After-Pains, tho' it is commended by *Dioscorides*, and some Practisers: He makes it *Diuretick* and *Hepatick*. An *Emulsion* may be made of *Pæony*-Seeds, for *Children*.

Mountain-Poley tastes Bitterish and Sub-acrid; and smells Aromatick. It is put amongst the *Anti-pestilential Antidotes*. It opens all *Obstructions* of the *Spleen*, *Womb*, and *Liver*; and is chiefly an *Hepatick*, as *Wormwood*. Outwardly it is fit for *Ulcers*. It is most properly put into the Class of the Bitter-Sub-acrid-Aromaticks, and not amongst the *Cephalicks*.

Love-Apple is of a strong heady Smell; Pomum and a little Grateful, much like *French-Marigolds*. It was very offensive to my Head;

Head; and, by the Fruit, seems a *Solanum*. I did not taste it.

Porrum. *Leeks*: The Taste and Smell are strong and rank, like *Garlick*, abounding with a Volatile Salt. The Pottage of *Leeks* is good against the *Scurvy*, and the *Quartane-Ague* in the Declination of it. They discurf the *Piles*, being fry'd with Butter, or boyld; and so does the Fume of *Garlick*, laid upon the Coals. It is a strong *Diuretick* and *Thoracick*; but troubles the *Head*.

Portulaca. *Purslain* is Watry and Mucilaginous, and of a crude Smell. It is good against *Spitting of Blood*, in Syrup and distill'd Waters, and for *Hæmicks*. It is much us'd for both.

Prunus. The *Plumb-Tree*: The Bark is very Rough, Astringent, and Bitterish. It has a *Gum*, which is Watrish.

Psyllium. *Fleawort*: The Seeds are Mucilaginous, and they are us'd as such to cool *Inflammations*. The Plant is said to be Nauseous, Bitter, and Offensive to the *Stomach*. It is Purgative and Venemous. It feels Viscid.

Pellitory

Part II. Plants in Gardens and Shops. 253

Pellitory of Spain is of a burning Acrid Pyrethrum Taste; by which it is a good *Masticatory*: And if it be infus'd in Oyl, it is very good for *Paralytick Lameness* and *Coldness*.

Q.

Q.

(*Belonging to the Spontaneous Plants.*)

THE Oak Leaves are Crude, Sub-*Quercus*: acid, and Rough: The Bark is very Rough, with little or no Bitterness: The Shells of the *Acorn* have the same Roughness: The Kernels of *Acorns* are Sweet and Rough: The *Acorn*-Cups and Bark are good in all *Fluxes*. Out of the Leaves is distill'd a cooling Water; and out of the Bark is made a Decoction for *Vulnerary Baths* in the *Stone*, and *Mouth-Waters*. The Bark is boyld in Ale for the *Strangury*, with Bloody Water.

Beach, *Oak*, and *Maple*, differ little in Taste and Vertue.

Radix

R.

R.

Radix Rhodia.

R *Adix Rhodia*: The Leaves of this Plant are Slimy; and the Stalk is Bitterish and Rough: It resembles *Orpin*.

Rhabarbarum Monachorum.

Monks-Rhubarb: The Roots are Mucilaginous, and Bitter; and the outward Rinde is a little Astringent. It is most us'd in Diet-Drink for a *Cholagogue* in the *Scurvy*; but very gentle.

Rhabarbarum.

True Rhubarb has a *Dock*-Taste, is Bitter and Astringent, with a very little Gumminess, or *Resin*; in which is a little Acrimony, which is easily lost by any Heat. It purges *Choler* gently by the Bitterness, and Acrid Gumminess, as *Docks* do. The Leaves are *Acerb*, as *Docks* be. The Root colours the *Spittle* Yellow, and resembles *Choler* somewhat in Taste, as well as Colour.

Lignum Rhodium.

Lignum Rhodium is of an Hot, Bitterish, Sub-astringent, Aromatick Taste; and smells like a *Rose*.

Sumach

Part II. Plants in Gardens and Shops. 255.

Curriers Sumach is very Rough and Rhus. Bitterish; on which the Vertue depends in stopping *Fluxes*.

The *Currain-Tree*: The Bark is very *Ribes*. Astringent, and a little Bitter. The Fruit is very Acid. It is made into *Quiddany*, and not a *Syrup*. A Tart *Wine* is made of it; which is boy'd first, to take away the Windiness. The Leaves are Rough and Sowre.

The *Black Currain* is like the other; *Ribes* fruit but is of a strong, stinking, and nauseous *ctu nigro*. Smell.

The *Red-Rose-Tree*: The Flowers are *Rosa Ru-* Bitterish and Astringent, without any bra. considerable Mucilage, and smell Fragrant. They stop *Fluxes*, and yield a Cordial Water and Spirit.

Damask-Rose-Tree: The Flowers taste *Rosa Da-* Mucilaginous, Bitter, and Astringent; and *masцена*. therefore are Purgative. The Astringency is least in these Flowers. A Syrup is made of them to purge: An handful of the Flowers boy'd in *Whey*, does the same. The *White - Rose* has the same Vertue: Ten Ounces of the distill'd Water thereof, purges.

Roses

Roses smell either like *Musk* or *Cinnamon*; or Fainty, like *Lilies*; or very Grateful and Fragrant; or are inodorous; or Fetid, as the *Yellow Rose*. The strong Smell of *Roses*, shews an Acrimony in them; which helps the bitter Mucilage in purging. *Red Roses* have the same Acrimony; yet for want of Mucilage, and a greater degree of Bitter, the Astringency prevails. From whence it is evident, how much the Vertue of Herbs depends on divers different Principles of Plants; and the absence of one, or a difference in Degree, alters the Vertue considerably; and therefore all Compositions alter the Nature of the Simples much.

Rosmarinus.

Rosemary: The Green Leaves and Flowers are Bitterish, Acrid, and Aromatick in Taste and Smell. *Rosemary* was call'd *Libanotis*, from the Smell like *Thus*: It is therefore an excellent *Cephalick* in *Palsies* and *Apoplexies*, us'd in Conserve of the Flowers, Spirit, or Queen of *Hungary's* Water; or the distill'd Oyl, or Decoction of the *Wood*.

Ruta.

Garden-Rue is Bitter, Acrid, and Hot, and of a strong rank Smell; by which it is accounted an *Hysterick* Medicine. A
Volatile

Part II. Plants in Gardens and Shops. 257

Volatile Salt and Oyl may be distill'd out of it in Sand; and by that it is *Alexipharmack* in *Plague-Waters*, infus'd in *Vinegar*, and eaten with Butter. It is boyl'd in Milk for the *Worms*, and us'd to the *Belly* in Oyl. The Conserve of the Leaves, or Powder, is us'd in *Convulsions*. Give half a Spoonful of the Powder for Nine Days in the Morning, in Drink; and at Night take Twenty-four Grains of the same. Take White *Henbane-Seeds* Two Ounces; powder it; adding half an Ounce of *Sugar*: Take in a Spoonful of Syrup of *House-Leek* a Scruple, for Forty Days, at the Full and New Moon. Bathe the *Feet* in this following Decoction, and wash the *Temples* and *Forehead*. Take *Rue*, and Roots of *Henbane*, of each an Handful; boyl them in Spring-Water a Quarter of an Hour; then make a Bathe. Take White Wine Two Pound, Juyce of *Rue*, inward Bark of *Elder*, and the Leaves, of each, Two Ounces; boyl them in the Wine to half the Quantity, then take Two or Three Spoonfuls in the Morning fasting. This is accounted Sir *Theodore Mayhern's* Receipt; who says, It has cured many. The whole Vertue of it lies in the *Opiate Faculty*, and the *Rue*.

Rue is *Diuretick*, *Emmenagogue*, and *Cephalick*; but exceeding Hot in Taste and Smell. I have seen it blister the Lips upon chewing. It discusses *Wind* strongly:

S.

Sabina.

S*avin* is of a biting *Turpentine*-Taste, Strong, Bitter, a little Mucilaginous and Astringent; and of a *Turpentine*-Smell, when rubb'd; but before, more Fetid: By which it is *Uterine*, provoking the *Menses*, and driving out the *Fætus*, and After-Birth. Outwardly it is a strong Cleansing *Vulnerary*, and *Diuretick* inwardly by the *Turpentine*-Smell. You may make a Cleansing Oyntment of it, with *Axungia Porci*.

Salvia.

Sage is Bitterish, Hot, and Aromatick in Taste and Smell. It is a *Cephalick* in Decoction, and Conserve of the Flowers; and us'd in *Cephalick* Waters; and a *Chymical Oyl* drawn from it, is in use. It provokes *Urine*, baked in Paste, and put into a Vessel of Beer; and therefore is us'd in *Dropsies*; and is boyl'd in Posset-Drink, for *Sweating*; and 'tis us'd as *Thea*. It is Cleansing in *Gargles*, and in *Nervine Baths* and

Part II. Plants in Gardens and Shops. 259

and Oyntments discussing. The Aromatick Oyly *Turpentine* of *Sage*, is strain'd through the Pores of the Tops of it; and feels Clammy, or Glutinous.

Elder-Rose: The Flowers are Mucila- *Sambucus* ginous; and smell neither considerably, *Rosea*. nor like *Elder*.

Tellow-Saunders is Bitterish, Astringent, *Santalum* and Aromatick; and of a *Musky*, *Fra-Citrium*. grant Odor; and therefore is Cordial, Astringent, Aperitive, and Cephalick, by the Bitterish Aromatick Taste.

Prickly-Bindweed is of a Mealy, Dry *Sarsaparil-* Taste: The Decoction soon turns sowre. la.

Quære, Whether there be any Acrimony in it, by which it sweats?

Tile-Tree is Mealy and Acrid: *Quære*, Whether That may not be a Substitute of it? though no Root, that I know of, is in any Shrub, but *Periclymenum*-Root, which has any considerable Acrid. *Hop-* Roots are like it in Vertue. *Quære*, Whether it be not Bitterish like them.

Sassaphras is a Wood of a *Fennil* and *Sassaphras*. Aromatick Smell; and tastes Sweet, Hot, and Aromatick; and therefore is *Diure-*

retick, Carminative, and Pectoral, like Fen-nil; and yields an Oyl. It is good in Sweating Decoctions, Catarrhs, and the Gout. It yields a Resin, if extracted by Spirit of Wine, as Cinnamon does; and both will præcipitate with Water. The Bark is the strongest.

Satureia. *Savory* is very Biting, Hot, and Bitterish; and of a strong Aromatick Scent, flying strongly into the *Nose*. It is a *Cephalick* and *Diuretick*. When pickled it tastes like *Sampire*. It is of the Nature of *Hyssop*: By their great Acrimony, both of them act like *Volatile Salt*, which is evidently in them.

Scammonia.

Scammony-Bindweed: It yields a *Resin*, like *Jalap*, is Milky, if wet, and is at first like Milk running out of the cut Root, as *Dioscorides* says; and therefore has at first some Acrid, *Tithymal*-Taste, by which it purges; though when it is kept in the Shops, it has no Acrid Taste, but smells somewhat Acid, as *Resin* of *Jalap* does. It purges strongly. It is thought to be a sort of *Bindweed*. The dried Juyce of the Root is call'd *Scammony*. The *Resin*, dissolv'd in *Spirit of Wine*, is put into Syrup to purge. By the Milk and Acrimony,

ny, it may be referr'd to the Class of the *Tithymalus*. It has no Bitterness; and for that Reason, I think it is not a *Convolutus*, though the Figure makes it so.

Chives taste of the same Acrid, as *Gar-Schænolick*; and of the same rank Smell and *Ver-prassum*. true, exciting *Appetite*; and therefore us'd in Sauces.

Camels-Hair is Astringent and Aroma- *Schoenanthus*.
tick, smelling like a *Rose*.

Squills is Bitter, Mucilaginous, and A- *Scilla*.
crid; and of a rank Smell: When fresh, if rubb'd on the Skin, it will make it smart. The Wine of *Squills* is best for Vomiting: But *Vinegar* corrects the Volatile Salt in *Squills*. Oyl heals their Stinging of the *Hands*.

Cater-Pillars, with the Leaves of *Bu-Scorpioi-pleurum*, are of a *Pea-Taste* and Flavor. *des bupleu-rifolia*.

Vipers-Grafs: The Roots, Leaves, and *Scorzone-Flowers* have an Insipid, Watrish, and ra.
Sweet Taste. It is Cooling, and fit for Food: But where the *Sudorifick*, Cordial Quality lies, I cannot find. The Milk is Sweet.

Sebestens. *Assyrian-Plumbs* are Sweetish, Slimy, and *Pectorals*.

Sedum Ar- *Tree-House-Leek* tastes Watrish and *A-*
borefcens. stringent, like the *Ordinary House-Leek*.

Sena. *Sena* is Mucilaginous, Slimy, Bitterish, and a little Hot or Acrid; and of a strong Herby-Smell, like New *Hay*. It purges *Serum* gently in Decoction or Powder; but gripes by the Viscid Slime, which may be corrected by *Tartar*.

Seriphium. *Sea-Wormwood*: I describ'd That I found in the *Garden*, under the Letter *A*, as I have done others. Mr. *Ray* found it Wild: But I find by this Instance, that *Wild Plants* are stronger than those of the *Garden*. *Sea-Wormwood* is less Astringent than the *Common*, and more Hot. It has a nauseous Taste, being very Bitter and Acrid; and therefore is very *Diuretick*, good for *Worms*, and less agreeable to the *Stomach*, than *Common-Wormwood*.

Serpentaria Vir- *Snake-Weed* smells of *Turpentine* strong-
giana. ly, like *Valerian-Roots*; and tastes Bitter and Acrid. Half a Drachm of the Powder is given before an *Ague-Fit*. It is *A-*
lexipharmack and *Diuretick*. I have given
it

it very successively for driving the Gout from the Stomach.

Seseli-Seed is very Bitter, Sweet, Acrid, *Seseli.* and Aromatick in Taste and Smell. It is of the *Fennil-Class*, being *Diuretick* and *Pectoral* in *Asthma's*, and *Carminative*.

Skirrets: The Taste of it is Sweet and *Sisarum.* Aromatick, like *Parfnep*.

Smilax: The Leaf tastes Bitterish and *Smilax.* Rough, smells Crude, and looks like an *Ivy-Leaf*.

Tree-Night-Shade smells strong of a *So-Solanum* *lanum-Smell*, like *Solanum Lignosum*; and fruticosum therefore is *Narcotick*. Amomum

Quære, Whether the *Solanum-Trees* are *Plinii.* not stronger *Narcoticks*, than the *Herbs*.

Saracen's Confound tastes Bitterish, A- *Solidago* stringent, and Terebinthinate; by which *Saracenica* it is a *Vulnerary*. It is Terebinthinate, and smells a little like *Angelica*.

Celtick-Nard is very Bitter, Hot, Aro- *Spica Cel-* matick, and Astringent: It resembles *Va-tica.* *lerian* in Taste, Smell, and Vertue; and is a *Turpentine-Plant*, being *Diuretick*.

Spica Indica.

Spikenard is very Hot, Aromatick, and a little Bitter. It is of the Vertue of the former, *Diuretick* and *Cordial*.

Spinachia.

Spinache is Watry, Mucilaginous, and Acid; and of a Crude Juyce, cooling inwardly and outwardly.

Spiræa Theophrasti.

Spiked-Willow of Theophrastus has a Crude Smell; and is Bitter, Rough, and of a Crude Taste.

Spatula foetida.

Stinking-Gladdon has a strong Smell, like *Roast-Beef*.

Stachys.

Base-Horehound tastes Bitter and Acrid, is of a Fetid *Lamium* Smell, and of a *Marubium* Vertue. It is *Anti-hysterick*, provoking the *Menses*, and expelling the After-Birth.

Stoechas Arabica.

French-Lavander: The Flowers, in the *Shops*, are Sub-Astringent, Bitterish, Hot, and Aromatick, like our *Lavander*; and is a *Cephalick*. The Syrup is in the *Shops*, and is given in *Cephalick* Diseases.

Stramonium.

Thorn-Apple: The Smell is Strong, Unpleasant, and somewhat Narcotick, or like *Elder*. An Oyntment of the Leaves cures
Scalds

Scalds and Burns; and is a good Anodyne in *Cancerous Breasts*. The Leaf boyl'd, and drunk by mistake, caus'd a *Phrenzy*, like *Narcoticks*. It is a *Solanum* in Vertue.

The *Cork-Tree* is Bitterish and Astrin-Subergent.

Sumach tastes Bitterish, Astringent, and Sumach. Acrid; and yields a Milk.

Sycamore: The Bark is Bitterish and Sycomorus Rough; the inside of the Bark is a little Slimy. It is Astringent, like *Maple*.

White-Pipe is of a Bitter, Sub-acrid Syringa Taste. alba.

T.

T.

T *Amarinds* are Sweet, Slimy, and Tamarindi; Acid *Plumbs*; by which they loosen the *Belly*, correct hot *Choler*, as Acids, and abate *Thirst*.

Tamarisk: The Bark is Bitterish and Tamariscus Astringent; and therefore accounted a *Splenetick*, stopping the irregular Fermentation

tation of the *Blood*. It is good for *Ulcers of the Mouth*, and *Pain of the Teeth*.

Terebinthus.

The *Turpentine-Tree*. The broad Leaves smell plainly of *Turpentine*, and taste Bitterish and Astringent.

Thalictrum.

Meadow-Rue: I tasted it in the *Garden*. The *Yellow-Root* is of a Sweetish, Bitter Taste; and so is the Leaf, by which it may be Nauseous and Purgative. This and *Columbine* I refer to the *Pea-Clafs*, for their Sweetness.

Meadow-Rue is not of a *Rhubarb-Taste*; but may purge *Choler*, as *Fumitory* does.

Thlaspi Creticum.

Candy-Tufts are Acrid, Bitter, and Slimy in Taste.

Thymus citratus mastichinus & Serpillum.

Thyme is Bitterish, Hot, Acrid, Aromatick, Carminative, Stomachick, Cephalick, Cordial, and Uterine. It is us'd in After-Pains. *Thyme* has divers Aromatick Smells, in the different *Species*; as of *Mastic*, or *Citron*, or *Limon*; or like *Balm*, as *Serpillum*.

Trifolium Cochlearium.

Snail-Trefoile is of a *Pea-Taste* in both the kinds which I tasted.

Sweet-

Sweet-Trefoile or *Balsam*: The Herb *Trifolium* smells *Balsamy*; but squeez'd, smells of a *Pea-Smell*. The Taste is of a Mucilaginous *Pea-Taste*; and very Hot or Acrid, like *Melilote*. The Flowers infus'd in *Oyl*, make a warm *Vulnerary Balsam*, dissolving hard *Tumors*. The whole Plant is boyl'd in *Hoggs-Grease*. The Flowry Part boyl'd in *Posset-Drink*, sweats, given after *Bruises*, and does not purge.

Tulip-Roots are Sweet, Mealy, Muci-*Tulipa* laginous, and of the *Lily-Vertue*.

Turbith is Burning and Acrid, like *Ti-Turpe-* *thymalus*. See the *Specifick Classes*. *thum*.

V.

V.

THE *Vine*: The Leaves and Ten-*Vitis* drills are Acid and Rough; they are good for hot *Ulcers in the Mouth*, and us'd boyl'd in cooling Broths. The Ripe *Grapes* are Sweet, Sub-acid, and Slimy. The Stone tastes Austere, Bitterish, and Rough. Unripe *Grapes* taste like the Leaves, Acerb, Acid, and Rough. The Root of the *Vine* tastes Bitterish and Rough. *Winters-*

W.

W.

Wintera-
nusCortex.

W *Inters-Bark* is very Pungent, Biting, Aromatick, and Hot, like *Cinnamon*: It is good for the *Stomach*, and Cold *Scurvy*, by the Oyly and Pungent Salt.

Z.

Z.

Zedoaria.

Z *Edoary* is Bitter, Hot, and Aromatick, like *Ginger*. It is *Carminative*, good for the *Stomach*, and *Alexipharmack* by the Bitter-Acrimony.

Quære, Whether the Smell be like *Camphore*; as also, the Smell of *Lesser-Cardamoms*? as Dr. Grew.

Zinziber.

Ginger is very Acrid, Hot, Aromatick, Bitterish, Carminative, Cordial, and Cephalick, by the Volatile Salt.

The End of the Second Part.



The Third Part.

THE
Tastes and Vertues
OF THE
Products of Vegetables,
(Viz.)

Gums, Resins, Turpentine, &c.

CHAP. I.
Of Watry Gums.

W*atry Gums* will dissolve in cold *Water*; but will not melt nor dissolve in *Oyl*. They burn without Flaming, and taste Slimy and Clammy. They were originally Mucilages, which dry into *Gums*.
Gum-

Gum Arabicum.

Gum-Arabick is Clammy and Mucilaginous: It is the *Gum* of *Acacia*. It is observable, That not only this *Tree*, but all other *Trees* yielding a *Watry Gum*, are Astringent. Whence I do infer, That *Watry Gums* are Mucilages coagulated by an Acid, the Astringency depending on an Acid. *Gum-Arabick* yields a Fixt Salt. All *Gum-Resins*, as *Myrrh*, *Aloes*, *Opium*, and *Euphorbium*, have a Fixt Salt upon the Account of the *Gumminess*.

Gum Tragacanthi.

Gum-Dragon is a Clammy Mucilage of a *Thorny Plant*. Half a Drachm thereof is good in Powder in *Sharpness of Urine*, and *Coughs*. All *Watry Gums* are of an *Emplastick* Nature, cooling, sticking, and glewing Parts together. They allay *Acrimony*, thicken the *Humors*, and smoothe the *Passages*; having the Vertue of Mucilages, and of an Acid dull'd thereby. The Plant from whence this *Gum* is gather'd, is describ'd amongst the *Leguminous Plants*.

Gum Cerasorum,
Mali Persicæ,
Amygdalæ,
Prunorum,

Cherry, Peach, Almond, and Plumb-Tree Gums, are all *Watry Gums*; and have the same Taste and Vertue with the former.

Dragons

Dragons-Blood is the *Watry Gum* of a *Sanguis Tree* dissolvable in *Water*, and tastes *Gum-Draconis*. *my* and *Astringent*; and therefore is a good *Agglutinative* in *Spitting of Blood*, and it stops all *Fluxes*.

White Starch comes near the Nature *Amylum*. of *Watry Gums*; being prepar'd of *Wheat-Flowre*, which is *Mucilaginous*: For by the *Mucilage* it smoothes the *Hands* and *Face*, and allays the *Acrimony* in *Coughs*.

Sarcocol has a very sweet *Gummy Taste*; *Sarcocolla*. though the true *Sarcocol* is said to be *Bitterish*, like *Frankincense*, and very *Nauseous* and *Purging*; but without any *Smell*. It is dissolvable in *Water*. It is outwardly us'd as an *Agglutinative*, cleansing and allaying any *Sharp Defluxion* into the *Eyes*.

Manna is very nauseously Sweet, and *Manna*. *Gummy*. It is the *Gum* of a *Tree*; and by the very sweet *Gummosity*, it is *Purging*. It also contains a very *Acid Spirit*; by which it is injurious to the *Hypochondriacal*, and good for the *Cholerick*. *Acids* are given with it, to abate the luscious Sweetness.

Honey:

Mel.

Honey: By the Sweetness it is *Diuretick* and *Pectoral*. It is partly *Vegetable*, and has an *Animal* Digestion. In Distillation it yields an *Acid Spirit*; by which it is offensive to the *Hypochondriacal*. *Honey* contains also an *Oily Spirit*, by which it is *Vinous* in Liquors, after Fermentation; and, by the Acid, outwardly cleanses *Ulcers*. It seems to partake of the Nature both of *Watry* and *Turpentine Gums*.

Saccharum

Sugar is a *Salt* very Sweet and *Oleous*; and therefore inflammable. It melts without *Water* at the *Fire*, mixes with *Oyl*, and, by Fermentation, yields a burning *Brandy Spirit*: Therefore the use of it is very inflaming to the *Blood*, by the *Oily Part*; and by the Acid, corrosive; which it yields in a strong *Fire*. It is like the Acid of *Tartar*, as all *Essential Salts* be, which are more or less mixt with the *Oyl* of the *Vegetable*. From this great Quantity of *Oyl* mixt with the Acid, the Sweetness arises. And because *Sugar* is dissolvable in *Water*, as the *Gums* be, and may easily be turn'd into a *Gummy* Consistence, as happens in boiling of *Sugar* with Acids; I think it fit to place it here amongst *Gums*, whose Taste it resembles more than the *Tartarous Salt* of *Vegetables*.

CHAP.

C H A P. II.

Of Fetid Gums.

F*etid Gums* were originally Milky Liquors: They are strongly Bitter, or Bitter-Acid; and have a Mucilage, whereby they soften; and a Volatile Oily Salt, whereby they discuss. By an Acid the Mucilage is coagulated into a *Watry Gum*; and the Oily Volatile Salt, which gives the *Fætor*, is coagulated into something of a *Resin*: whence the *Gum* is dissolvable into a Milky Liquor, by *Water*; and the Oily Salt is best extracted by *Spirit of Wine Tartariz'd*. These *Gums* are frequently dissolv'd in *Wine* or *Vinegar*, and put into discussing Emollient *Plasters*; but the *Vinegar* abates their *Acrimony*.

Opopanax is from the Root of *Panax*; *Opopanax* and tastes *Gummy*, very *Acrid*, and *Bitter*, and smells like *Garlick*. It is *Emollient*, and *discussive* outwardly; inwardly it is *Carminative*, loosening the *Belly*, *Pectoral*, and *Diuretick*.

T

Sage

Sagapenum. *Sagapenum* smells Rank, and tastes Biting, like *Garlick*; and is of the Nature of *Opopanax*.

Bdellium. *Bdellium* is Biting, very Bitter, and Gummy; and of the same Vertue with the former.

Opium. *Opium* is very Bitter, Acrid, and Gum-mose; and of a Poppy-Smell. It is Inflammable and Resinous; and is the greatest Opiate. It is Diuretick, Venereal, Diaphoretick; and sometimes it vomits and purges.

Euphorbium. *Euphorbium* is very Burning and Exulcerating in Taste, and of a Fetid piercing Smell; not to be us'd inwardly, but externally in drawing *Plasters*, and for Carious *Bones*. The *Acrimony* may be corrected by Acids. It is said to be a *Tithymal*; and all *Tithymals* have the same Vertue.

Euphorbium is the Gum of a Milky Plant, purging violently, and sneezing strongly.

Gum. Hederæ. *Gum-Ivy* is of an offensive Smell, and very Biting and Exulcerating in Taste.

Camphora. *Camphore* is a Gum out of a Tree like *Poplar*:

Poplar : It has a strong Smell, and tastes Bitterish, Acrid, Hot, and Pungent. It is an *Antihysterick* inwardly ; and outwardly it opens the *Pores* in *Inflammations*, and so cools. It is us'd as an *Alexipharmack*. It dissolves in *Spirit of Wine* or *Oyl*, having a great deal of *Oyl* and *Volatile Salt* in it. A good *Tincture* is made of it, with the *Spirit of Wine* Tartariz'd.

Affa Fætida is the most offensive Fe- *Affa Foetid*, like *Garlick*, and very nauseously. *Bit-da*. ter : It is therefore the greatest *Antihysterick*.

Galbanum is very Fetid, and smells like *Galbanum*. *Garlick*. It is very *Gummy*, Bitter, and Sub-Acrid ; and therefore very Emollient and Discussing ; and inwardly *Antihysterick*. It burns like *Resin* ; and is Soft and *Gummy*, like *Wax*.

Gum-Ammoniack is a *Gum* of a *Ferula*. *Ammonia*. It smells strong, and but little like *Castor*. cum. It is very *Gummy* and Bitter ; by which it opens all *Obstructions*, cures the *Asthma*, and *Fits of the Mother* ; and by the *Gumminess* and Bitterness, is *Laxative* and *Carminative*. Outwardly, by the same, it discusses and softens *Scirrhus Tumors*.

Fuligo.

Soot: I place it here, because it has a Smoaky Fetidness of *Burnt Wood*, and an *Oyl* and an *Acid* in it; by which it is manifestly Bitter and Acrid. It is very *Sudorifick* inwardly, and seems a State of *Vegetable Principles*, betwixt *Bitter* and *Salt*. A great Quantity of *Earth* rises with the *Oily Acid Particles*; by a stricter Union whereof, a Volatile *Salt* is produced from *Soot*, in Distillation.

I could not find much Difference in the Taste of *Soot* of *Wood*, from that of *Coals*. The Last is more Fetid and Saltish, the First more Acid. *Wood* distilled yields a Fetid *Oyl*, and Smoaky Acid: The same separated, by a *Fire*, from *Wood*, carries *Earthy Ashes* with it, and constitutes *Soot*; which is not very Bitter. The *Soot* of *Coal* and *Wood* being almost the same, I suppose the *Oyl* and *Acid* in the Principles of *Vegetables* and *Minerals* are nearly related.

CHAP.

C H A P. III.

Of Turpentine Gum-Resins.

Resins melt with Heat, burn with a Flame, and will be easily dried to Powder: They dissolve in Oyl, or Spirit of Wine. They generally taste Brittle, and smell of *Turpentine*; or else are more Aromatick, or Fetid: And some have a Gum joyn'd to the Resin, and are call'd Gum Resins.

Resins are Oyls, and Volatile Salts, coagulated by an Acid, which all Resins yield in Distillation: They are Acid-Oleous Liquors at first, being originally *Turpentine*s; Dr. Grew.

Fine Frankincense tastes Gummy, Hot, Olibanum, and Bitterish; and smells of *Turpentine*. It stops Rheums by the Gummyness, and is Diuretick by the *Turpentine*-Smell; and by the Heat dries much; and provokes Sweat in a *Peripneumonia*.

Mastich has a *Turpentine*-Smell, and Mastiche, tastes Hot, Gummy, and Brittle. It is us'd as an Astringent: By the Gummyness it

stops Rheums. The *Mastich-Wood* is Bitterish and Styptick. This is a *Terebinthinate-Tree*.

Resina.

Common Resin tastes Brittle, and is of a *Turpentine-Smell*. *Resin, Mastich,* and *Olibanum* have no quantity of a *Fixt Salt*; but yield a *Salso-Acrid Spirit* or *Salt*, as *Succinum*.

Colophonia.

Colophonia is *Resin* of the *Firr-Tree* boiled. *Resins* digest by their moderate Heat, and agglutinate by their *Gumminess*.

Gum Juniperi.

Gum-Juniper is a *Gum-Resin*, of a sort of *Cedar*, and smells strong of *Turpentine*.

Pix.

Pitch is of the Nature of *Resin*.

CHAP. IV.

Of Gum-Resins.

Myrrha.

MYRRH is of a very bitter Taste, Gummy and Resinous. It dissolves best in *Spirit of Wine*. It agglutinates and cleanses in *Ulcers*. Inwardly

wardly it is an *Uterine*, *Pectoral*, and *Antifebrifick*. It is the best cleansing *Uterine*, given to half a Scruple.

Amber tastes Brittle and *Resinous*, and *Succinum* has a Fetid, *Turpentine*-Scent, as other *Bitumens* have. The *Tincture* of it, with *Spirit of Wine*, and the Volatile Salt and Oyl, are good *Antibystericks*, by their *Fætor*.

Lacca is a Brittle *Resin*, without Smell Gum Lac-
or Taste, and is dissolvable in *Spirit of* α .
Wine. It is not of that opening Vertue
Authors give it, unless because it colours
the *Spittle*. It is accounted good for the
Faundice. It is the Gum of a sort of *Plumb-Tree*.

Boyl'd Turpentine becomes of a *Resi-Terebin-*
nous Nature, by losing the *Spirituos Oyl* thina Cocta,
in boyling: And so *Resins* differ from
*Turpentine*s, and *Natural Balsams*; by ha-
ving less Oyl than they; but more of an
Acid and *Gumminess*.

Wax tastes Gummy, Oily and Hot, and is Cera.
of a very grateful Smell; by which it is
Mollifying, Digestive, and Emplastick. It
is the *Gummy Terebinth* of Plants gather'd
and prepar'd by *Bees*; and differs from

Honey, as *Turpentine*s do from *Gum-Resins*. It yields an *Oyl*, which is discussive in *Tumors*, if distill'd by an open *Fire*.

CHAP. V.

Of Sweet-scented Gum-Resins.

Labdanum L *Abdanum* is of an Hot and *Resinous* Taste, and of a Fragrant Scent: It is dissolvable in *Oyl*; and is the *Gum* of *Cistus*, which easily grows soft. It is us'd outwardly in *Perfumes*, and *Plasters* for *Nervous* Distempers, heating and mollifying them; and inwardly is us'd for *Coughs*, and *Cephalick* Distempers; which are the general Effects of all *Sweet-scented Gum-Resins*.

Gum. Animi. *Gum-Animi* is of a grateful *Turpentine*-Smell, and dissolvable in the *Spirit of Wine*. It is accounted *Nervine*.

Benzoin. *Benzoin* is of a grateful Smell, resembling *Xylo-Aloes*. This *Resin* dissolves in the *Spirit of Wine*, into a *Tincture*; and the

Part III. the Products of Vegetables. 281

the Flowers of it are good opening *Pectorals*.

Gum-Caranna is *Resinous*, and smells like *Caranna*.
Tacamahacca: It is us'd in hot Plasters,
to warm the *Nerves*.

Tacamahacca is an *Odoriferous Gum-Tacama-*
Resin: Outwardly it is us'd in cold *Di-hacca*.
stempers of the *Nerves*; and is very
sticking.

Balm of Tolu is *Gummy* in Taste, and *Balsamum*
a little Hot and Bitterish. It has an *Aro-*
matick Scent, like *Lemons*. It is dissolv'd
in *Barley-Water* for *Syrup*, and in *Spirit*
of *Wine* for *Tincture*; and may be given
in Pills or Powder, for stopping *Coughs*.
It is a little *Cleansing*, and very grateful
to the *Stomach*, more than any other *Tur-*
pentine.

Styrax-Calamita is a *Gum-Resin* of a *Styrax Ca-*
sweet Scent, tasting *Gummy*. *lamita*.

Burgundy-Pitch is *Clammy* and *Gum-Pix Bur-*
my, and of a sweet *Turpentine-Scent*. It *gundica*
is dissolvable in *Oyl*.

Gum-Elemi is of a sweet *Turpentine-GumElemi*
Scent,

Scent, *Gummy*, and *Resinous*. It dissolves in *Oyl*, and is us'd in *Wounds*, of the *Head*. It is the *Resin* of *Cedar*; which has the most *Acrid Turpentine*.

Gum.
Guaici.

Gum-Guajacum tastes *Brittle*, *Gummy*, and a little *Hot*; and smells *Sweet* and *Resinous*. It is dissolv'd in *Spirit of Wine*; and is *Diaphoretick* by the *Gumminess*.

Resina.

Resins of Scammony and Jalap are *Artificial Resins*, containing an *Acrid Salt*, & *Jalap*. which the *Acid* of the *Plants* has coagulated with the *Oyl*. These *Resins* work most, when dissolv'd by an *Oyl*; and then gripe least. They smell *Sub-acid*, as *Spurge* pounded does.

The *Tithymaline-Milk* is no way different from a *Resin*, but by being dissolv'd with *Water*. Hence *Scammony* and *Mechoacanna* yield a *Milk*, when fresh.

Resina lig-
ni Sassa-
phras, &
Cinnamo-
mi.

Resins of Sassafras and Cinnamon: Such warming *Resins* may be extracted out of *Aromaticks*. The sweet *Aromaticks* are most of them *Umbelliferous*; in whose *Roots* *Dr. Grew* observ'd *Balsam Vessels*.

These sorts of *Resins* do not purge, having neither a violent *Acrid*, nor a *Fetidness*, but an agreeable *Texture* of both; whereby

whereby they please, and do not irritate our *Spirits*, and *Fibrous Membranes*.

These *Vegetable* altering *Resins*, act on the Red Part of the *Blood*, by their Suitableness of Texture and Principles; supplying their Quantity, raising their Digestion, and quickning their Motion.

These *Resins* are the immediate Matter of hotter *Effluvia* in *Vegetables*; and produce Smells.

CHAP. VI.

Of Balsams.

Balsams have a more Liquid Consistence, because of a greater Plenty of Oyl; which is therefore less fixt by the Acid: And also a more diluted *Gumminess* is observable in them, with an *Acrimony*.

Turpentine tastes Bitter, Hot, and Gum-Terebinthy; and is of a grateful strong Smell, thin. by the Bitter-Acid, being *Diuretick*. It cleanses the *Kidneys*; and by the *Gummoseness*, stops *Rheums*; and by both, is Laxative,

Laxative, Cleansing, Agglutinating, and Digesting in *Ulcers*.

Balsamum Mecha. *Balm of Gilead* has a *Turpentine-Taste*, Bitter, Hot, and Gummy, with an Aromatick Flavor; by which it is more Grateful to the *Stomach*; and is good in the *Stone, Gout, Cough, Scurvy*, and all *Ulcers*. It helps the Dissolution of the purging *Resins* in *Pills*; and is counterfeited by mixing *Turpentine*, and *Oyl of Juniper*.

Balsamum Peruvia-num. *Balm of Peru* is Bitter, Hot, Aromatick, and of a Fragrant Scent.

Liquida Ambra. *Liquid-Amber* is an Oyly Resinous Liquor: It is of an excellent sweet Smell, given for *Coughs*, and outwardly us'd for *Falsies*.

Storax Liquida. *Liquid-Storax* is like *Liquid-Amber*.

Pix liquida. *Tarr* is of a Fetid strong Smell, and of a Bitter, Hot, Acrid, and Gummy Taste; by which it Cleanses and Heals, and by the Gumminess Agglutinates. It is an excellent outward *Vulnerary*; and inwardly is a *Pectoral*, given in *Pills* with Powder of *Liquorish*, and *Sugar-Candy*.

Petrolæum *Petrolæum* is a Fetid Bitumen, and of a strong

strong *Turpentine-Smell*. It yields an Oyl and *Colophony* in Distillation, and is used outwardly for *Palsies*. It is of the Nature of *Succinum*; which seems to be a thickned *Petrolæum*.

Amber-Grise is a greasy *Bitumen*, and Ambra of an excellent Scent; whereby it is *Cor-grisea*. *dial*, and agreeable to the *Spirits*. It is found in the *Sea*. A *Tincture* is made of it with *Spirit of Citrons*. *Dos. Gr. XV. ad XX.* in a dry Form. It is powder'd with *Sugar* in a double Quantity; and some Drops of Oyl of *Cinnamon* are added, for an high *Cordial*.

Oyl-Olive, or *Sallet-Oyl*, is smooth, in- *Oleum O-*
flpid, and roapy: It is moderately hot, *livarum.*
and mollifying by the Mucilage. It contains an Acid, offensive to the *Eyes*. It is *Pectoral*, and relaxing the Passages, and defending them against sharp *Humors* and *Poyson*. Oyl procures Vomiting. Much of it is offensive to the *Stomach*. But the Oyl of unripe *Olives* is Astringent.

Pickled *Olives* are Bitterish, and the distill'd Oyl is Fetid, Penetrating, and Discussing. The *Olive-Tree* is Bitterish and Styptick.

Outwardly

Outwardly Oyl smoothes the *Skin*, and stops the *Pores*; and thereby hinders Transpiration, as it stops the *Pores* of a *Filter*.

By its Mucilage it mollifies, and is Anodyne.

The Oyl and *Acid* in it make it Inflam- mable; as *Turpentine*s and *Resins* be, on the same Account.

Oyl has a Sliminess in it, and *Turpen- tines* have a *Gum*: It is offensive to *In- sects*, by stopping their *Lungs*; but it will not kill *Earth-Worms*.

I will here give the several Tastes of Oyl in *Vegetables*, which I have observ'd, viz.

1. A *Slimy Oyl*, which is express'd from *Linseed*, and other Mucilaginous Seeds.

2. A *Sweet Slimy Oyl*, such as is ob- servable in Oyl of *Almonds*, *Walnuts*, and other *Nuts*; and is the Product of an high- er Digestion.

3. A *Bitter Oyl*, as in Liquid *Turpen- tines*; or express'd Oyl of *Pistache-Nuts*, and Seeds of *St. John's-wort*; and the Oyls of some *Kernels*, as *Bitter-Almonds*, and *Peach-Kernels*: These differ from the for- mer, by having the Texture of the Oyl and *Acid* alter'd; by which Alteration
Sweet

Sweet becomes *Bitter* through an higher Digestion.

4. *Aromatick-Acid Oyls*, such as are express'd out of *Nutmeg*, *Mace*, and *Anni-seed*: In these a Volatile Pungency joyns with the *Oyl*, and renders it *Aromatick*.

5. A *Fetid Oyl* is expressible from *Fetid Seeds*; and is evident in *Leguminous Plants*.

6. A *Coagulated Oyl* in *Resins*; or else mixt with a *Gumminess*, in *Gum-Resins*.

None can rationally suppose *Vegetables* to have so many sorts of *Oyls* essentially different; but only distinguished by the several Mixtures of the Principles, by Digestion differing in one Plant from another.

Vegetables receive not only their *Acid*, but also *Oyl* from *Minerals*.

CHAP. VII.

Of Wine and Fermentation.

FROM *Water* and *Earth* mixt, and an outward Heat digesting them, no Fermentation can be produced, but the *Water* is evaporated, and the *Earth* powder'd: Therefore we must examine the other Two Principles of *Vegetables*; and from them we may deduce all the *Phænomena* of Vegetation, Fermentation, and also the particular Vertues produced by them.

It is a known Experiment, That *Oyl of Turpentine* and *Vitriol* will effervesce, and continue the Heat produced by that Ebullition for a long time.

Spirit of Nitre, and *Spirit of Wine* also produce a great Heat.

From these Experiments, a Contrariety betwixt *Oyl* and *Acid* is very manifest; and this is not so soon over, as the Ebullition betwixt *Alkalies* and *Acids*.

I shall endeavour to explain all the Effects above-mention'd from these Two, *Oyl* and *Acid*, and their Effervescence;
and

and I do wholly reject the Effervescence of *Alkalies* and *Acids*, because That soon ceases by an Union of both into a *Salt*; which is not found to happen upon Fermentation: And we could never yet find, that a *Spirit* or *Salt* could be separated by any gentle Distillation, from New *Wine*, or New *Ale*, unfermented.

A great *Acid* put to Fermenting Liquors, hinders the Fermentation of them: And also a Fixt *Salt* is found to hinder their Fermentation.

From these Reasons mention'd, I am convinced, that *Alkali Volatiles* are no ways the Efficient Causes of Fermentation; but only the Products of it, by a Composition of *Oyl*, *Acid*, and *Earth*.

The Seeds of Plants are very full of an *Oyl*, which differs only from the *Oyl* in *Turpentine*, by a different Digestion: For *Turpentine* has a Mucilage, or *Gumminess* in it; which chiefly appears in Mucilaginous Plants.

Those Trees which yield a *Watry Gum* have a bitterish Bark; which therefore resemble *Turpentine*s by both Tastes.

The Seeds of *Alder* have the Figure of *Pine-Apples*, and the Leaves a *Gumminess*; from whence I thought it had a sort of *Turpentine*.

U

The

The bitter Milks of *Vegetables* are only like dissolv'd *Turpentine*; and they dry into a *Gum* or *Resin*.

The *Laurel-Bitters*, such as *Almonds* and *Peaches*, have a Bitterness, and also a *Gumminess*, like *Turpentine*: And those *Trees* have a lasting Greenness, like *Turpentine-Trees*, as *Firr* and *Pine*.

The number of plain *Turpentine-Trees* and *Plants* are very great.

That *Plants* of a sweet Taste have their *Oyl* from *Turpentine*, is not improbable; because we find a great Sweetness in the Taste of Ripe *Ivy-Berries* and *Juniper-Berries*, which are manifestly *Turpentine-Trees*: And the *Roots* of *Fennil* have a *Balsam*, and taste Sweet.

That all *Aromatick Oyls* and *Resins* in *Aromatics* are pure *Turpentines*, I suppose is evident enough, by comparing them together, and for the Reasons I have mention'd in the *First Part*. And for the same Reason, all *Fetids* are likewise *Turpentines*; which are *Fetid* as well as *Aromatick*.

I cannot but believe, that all *Effluvi-ums* in *Vegetables*, which produce a Smell, have their Volatility, by which they are carried from the *Vegetable*, and act on the Sense of *Smelling*, from some *Oylinefs*.

Oyliness. Hence *Earths* are smelt by a *Sulphur* in them. *Acids* have also an *Oyl* mixt with them, as in *Tartar* and *Vinegar*. *Sweet Tastes* smell Mellowy, from an *Oyl* and *Acid* digested with *Water* and *Earth*. And *Terebinthinate-Smells* are from *Turpentine* Particles evaporating: And all *Aromaticks* and *Fetids*, from *Resins*. For the clearer Proof of which, I shall mention what Dr. *Lister* writes: *Illustre exemplum de ligno Cedrino Bermudensi olim dedimus, scilicet id apud me multos annos nec jam desinere resinam suam totâ substantiâ vaporare*. And I cannot believe, that *Salts* could give any Smell, but from their *Oily Part*, which is one of their Ingredients: Therefore *Vegetables* affect the Sense of Smelling, by *Oyl* joyn'd with *Earth* or *Acid*, and with *Acid* and *Earth* in *Salt*, or *Resins*: All which act on the *Organ* in the Form of *Effluvia*. And this Sense is therefore *Quædam tactus species*, as well as Taste.

And from this Likeness of *Impression*, and also the Likeness of the *Object*, we often find *Tastes* and *Smells* very much alike; the Plant tasting as it smells.

I did omit this about the Nature of *Smells* in the *First Part*; and therefore have here added it, as not very imperti-

ment; because Smells are the Effects of *Fermentation*, and are most observable, and also deducible from *Turpentine*s. And I also forgot There to observe, That many Smells are compounded; as Bitter and Sweet Tastes are frequently in the same Plant joyn'd, because Sweet easily become Bitter. So Fetids and Aromaticks are frequently joyn'd in Smells; as *Galeopsis*, *Valerian*, *Pulegium*, and *Nepeta*, have both Fetid and Aromatick Smells: From whence I argue, That they differ but in Degree, as Sweet and Bitter do.

I have taken notice in the *First Part*, That the *Acid* of *Vegetables* tastes like *Acids* of *Sulphur*; and from thence it will appear, that it arises, in the Discourse which I shall annex about *Minerals*. I shall here only observe, That *Tartar* is Inflammable, like *Brimstone*; and when it is distill'd, it is very Fetid, and an Oyl is separated from it: Such is the Composition of *Sulphur* and *Acid*. An Oily Part is closely lock't up in it; as in common *Tartar*. Upon the Mixture of Oyl of *Sulphur per Campanam*, with Oyl of *Turpentine*, a Redness was immediately precipitated; as it happen'd in the Mixture of the same, with Oyl of *Vitriol*. Spirit of Salt only turn'd Yellow: Sweet Spirit
of

of Nitre did not change. From these Instances it appears, That an Oyliness is lodg'd in *Sulphur* and *Tartar*; So that the Ingredients which compound the *Acid* of *Sulphur* and *Tartar*, which is the *Acid* of Plants, are very much alike; as well as the Taste of both the Pungency of the *Acid* in *Vinegar* depends on the *Oyl* of *Wine*, and the Pungency in *Spirit* of *Sulphur* on the *Sulphur* latent in the *Acid*. The Roughness in *Acerb* Plants depends on Earthy Parts, mixt with the *Acid*; and the Roughness in the *Acid* of *Sulphur*, from some *Mineral Earth* joyn'd with the *Acid*.

I find it confidently affirm'd, That one *Acid* will correct another; which I believe a Mistake: For *Spirit* of *Vitriol* and *Nitre* make a stronger *Menstruum*, than either of them alone; and so does *Spirit* of *Salt* and *Nitre* mixt, which make an *Aqua Regia*: So far are these from correcting one another. But the ground of this Opinion, I suppose, is from the Effervescence, caus'd by mixing of *Acid Spirits*, which happens by reason of some *Earth* or *Mineral*, joyn'd to every different sort of *Acid Spirit*; from whence the difference of *Acid Spirits* is deducible. Hence some *Acid Spirits* mixt, dis-

possess one the other from the *Earths* or *Minerals* joyned with their *Acid*; and from thence comes the Conflict and Effervescence. For the same reason, Spirit of *Vitriol* is mixed with Calcined *Salt*, to seize on the Earthy part of *Salt*, and to make the *Acid* of *Salt* loose from it, and fitter for Distillation.

I think I have here said enough to prove, that the Oyl of *Vegetables* is like Oyl of *Turpentine*; and the *Acid* of *Vegetables* like *Sulphur*, which differs nothing from *Vitriol*; but by being Impregnated with a *Mineral*, it becomes a vitriolate *Acid*. So that from the Experiments about the contrariety of Oyl and *Acid*, above-mentioned, I may conclude, that there may happen the same kind of Effervescence in *Vegetables*, which we call Fermentation.

When a Seed is placed in the *Earth*, the Oyliness of it is agitated or moved by the *Acid Watry* Juyce; soaking into it thro' its Coats, by the Effervescence of both, Vegetation is begun; and the Coats burst, and the Vessels of the Plant enlarged, for receiving new Nourishment. This consists of an Oyliness from the *Bitumen* and *Sulphur*; and also an *Acid* from the same; and also a *Water* and *Earth* mixt and digested together in the Pores of the *Earth*:

All

All which concur to produce a Nutriment for Plants. This is not promiscuously admitted thro' the Glandulous *Parenchyma* of the Root of the Plant : but it is probable, that each *Parenchyma* has differently figured Pores, for the admittance of *Oily* parts chiefly, or *Watry* parts, or *Earthy* parts, or *Acid* chiefly ; which may be very probable, because *Oily* parts are thought *Ramose*, *Acid* Angular, *Watry* Round, and *Earthy* very Irregular. We may very easily believe, that the Seeds of Plants, and their Roots, have Pores suited for the admittance of one, two, or more of these : And these are pressed into the Seed by the force of the *Airs Spring*, when a Plant begins to swell by the rarefying of its own Juices, thro' the Effervescence of its own *Oyl* and *Acid* ; which is much promoted by the External Heat of the Sun, or an hot Bed, and the admittance of an *Acid* from the *Earth*.

This Fermentation is very slow, and never highly raised in *Earthy*, *Acid*, and *Mucilaginous* Plants ; and therefore in such, the *Oyl*, *Acid*, *Earth*, and *Water*, are never much separated ; but in sweet Tastes the Fermentation separates a little, and loosens the *Oyl* and *Acid*, from the *Watry* and *Earthy* Particles. In *Bitters* the same are

more separated; in *Aromaticks* the Oyl is most rarefied; in *Acrids* the Oyl and Acid compound a Salt, with an *Earthy* part: From these Instances we find, that by Digestion the Principles of Plants are separated, and now Compounded into *Salts*, *Resins*, *Gums*, and *Turpentine*s. This Digestion differs not from the Effervescence betwixt Oyl and Acid; which differs according to the several Oyls which are contained in the Seeds of Plants. One Oyl ferments with Acid more than another; and each Oyl in the Seed produces that which is most suitable to the nature of the Plant to be produced.

From the Rarefaction of this Juyce of Plants, by the Effervescence of Oyl and Acid, the rise of the Sap, and the shootings of Plants, may be deduced. And the wonderful force mentioned by Mr. Boyle, in lifting up a great Weight by Fermenting Beans; and from hence Wines burst their Vessels: So that the force of *Fermentation* equals that of *Explosion*.

If we consider the many Compound Tastes of Plants, we cannot believe, that they can rise from the same kind of Fermentation: Some Plants taste *Rough*, and very *Acrid*, as *Chelidonium minus*. Others *Slimy*, and *Acrid*, and *Bitter*, as *Leucoium*. And there

there is a different Taste in many parts of Plants, which proceeds from the different Digestion of the Juyce, in different parts. So in *Cherries*, the Taste of the Bark is *Bitter Astringent*: The Leaf differs from it by a Sliminess: In the Fruit there is a Slimy, Sweet, Sub-acid Taste, without any *Bitterness* or *Astringency*. The same difference is observable in the Odors of Plants. The Leaves of *Elder* are Fetid; but the Flowers Fragrant; which is a sign of a different Digestion. There are the same Varieties of Tastes and Odors in Animals; tho' *Choler* be separated by the same sort of *Glandules*, yet it has a Bitter, Sweet Sliminess. The *Serum* of the *Blood* has serose parts, and Watriness, and a Saltiness: The *Semen* has a thin, and also a viscid part: The *Liquor Nervosus* has an Oily Salt, dissolved in a *Lympha*.

The diversity of Tastes in *Choler* does not depend on different Strainers, but different Digestions of *Chyle*; and the new supply of it; which flows continually into the Veins: From hence it will fall out, that one part is perfectly Digested, and another less; and therefore some part of the *Choler* tastes *Sweet*, and another part *Bitter*; and a crude *Lympha* is the Vehicle of both, to help their separation: these
being

being mixt together, give the Variety of Tastes, observable in *Choler*. The same thing happens in Plants; which, during their growth, receive fresh Nourishment, which is differently Digested; and therefore gives those Varieties of Tastes, observable in the same Vessels, and the same Liquor, as in *Milks*, *Turpentine*s, and *Fetid Gums*.

But I cannot well understand, how such Particular Liquors as *Milk*, *Gums*, *Turpentine*s, and *Lympha's*, can be produced and kept in particular Vessels, which are really different from the crude Juyce of the same Plants, without allowing such parts in Plants, as *Glandules* in *Animals*, which separate the *Milk*, *Semen*, *Spirits*, *Choler*, and *Lympha* from the *Blood*. I therefore cannot think it improbable, that the *Parenchyma* of Plants is wholly Glandulous, and the Woody *Fibres* are Vessels; some of which are *Lacteals*, *Lymphaticks*, *Muciducts*, *Gums*, or *Balsam-Vessels*. An *Animal Body* is composed of *Vessels* and *Glands*. The *Vessels* are branched into the different parts of both alike, and receive a prepared Juyce from the Glandulous *Parenchyma*: and the same may be the preparation and distribution of the Juyces in *Vegetables*, because

cause the same Tastes and Odors are observable in both Kingdoms. And *Vegetables* digested by an *Animal*, undergo the same Separation and Preparation, as is manifest in *Animals*.

When one Tree is grafted on another's Stock, the Fruit is the same as the Branch Ingrafted. The Juyce in the Glandules of it, giving such a particular Fermentation to the Juyce of the Stock, as to alter it into the nature of the Graft: and if the Seed be a perfect Plant, there may lodge such an Original Juyce in each part of the Plant, as may change the nature of the same Juyce in the several parts. So in *Chelidonium minus*, the Acrimony is very manifest in the Stalk, but neither in the Leaves or Root: but I rather believe, that if the Juyce of a Plant is the same in the whole Plant, different alterations of the same Juyce may happen by a higher degree of Fermentation. So the Roots of *Wormwood* are *Sweet-Aromatick*: The Leaves very *Bitter-Aromatick*. The Bark of *Ash* is *Bitter-Rough*: The Flowers have also an *Acrid*. These Alterations happen by a higher degree of Fermentation in the same Juyce. So Fermented Liquors acquire a Ripeness by long keeping, and by the difference of Vessels, in which they

they are kept. Upon this account, the Juyce in Roots is kept more cool: But in the Leaves, the Stalks more exposed to the Agitation of the Air, and Heat of the Sun; whence will arise a difference of Tastes and Digestion. It is most probable, that the difference of the Digestion happens not only by Original different Juyces in *Plantula Seminali*, but also by the difference of Vessels; which seems very evident in Seeds and Fruits; where, without an addition of a Ferment, the same Fruit becomes *Sweet*, *Sub-acid*, and *Slimy*, which at first was *Acid*, and very *Rough*. And *Nuts* become *Sweet* and *Oily*, which were at first *Austere*.

The Root of *Vines* tastes *Bitterish* and *Rough*; The Leaves, *Acerb*; The Ripe-*Grape*, *Sweet*, *Sub-acid*, and *Slimy*; The Seed, *Austere* as the Root. So that these different Tastes shew the Alterations which happen in the Juyce of the *Vine*: From *Austere* it comes to an *Acerbity* in the Leaves; and from thence to a *Sweet Sub-acid* in *Grapes*; but the Stone or Seed returns to the Austerity of the Root.

Vinum.

Wine is made out of the *Sweet Sub-Acid Juyce* of the *Grape*: And the same is the nature of all the Juyces of Berries
of

of the same Taste. The *Acid* is evident to the Sense ; and an *Oyl* produces the Sweetness. This is the Taste of *New-Drink*, *Metheglin*, and *Sugar* dissolved in *Water* ; and most other Liquors usually Fermented ; and this Sweetness is a certain sign of an *Oyl* and *Acid* ; for these may be distilled out of *Honey*, *Sugar*, *New-Wine*, and *Beer*, by a strong Fire. And there is no other eminent Principles in Sweet Tastes but these. Therefore from them, the Fermentation of these Liquors must be deduced.

The *Acid* of Fermenting Liquors cannot produce the heat of the Liquor, by acting on the *Earthy* parts, because they are already mixt with the *Acid*, and kept fluid by it ; otherwise the *Earth* would wholly precipitate. But this Heat proceeds from the Effervescence made betwixt the *Oyl* and *Acid*, which will cause a considerable Heat ; as is manifest by the Artificial mixture mentioned.

All Fluids have an Internal Agitation of parts, which produces their Fluidity ; which being supposed, and also a contrariety of particular Figures betwixt *Oyl* and *Acids*, the first being *Ramose*, and the last *Angular* : It may easily be conceived, that a difference of Motion will be natural
to

to these two Principles; which two Motions meeting, give a disturbance to their natural Tendencies; and from thence proceeds the Effervescence, which is always promoted by some external Heat, as of the *Sun*; or else the Liquors are boiled before Fermentation; as in *Metheglin*, *Beer*, and some *Wines*.

The effect of a great deal of *Acid* upon *Oyl*, is to coagulate it; but a smaller quantity Fermented with it, expands, opens and rarefies the *Oyl*. This is evidently done in the Butter of Antimony, where the *Acids* of Sublimate open the close Texture of the *Sulphur*, and gives it the form of Butter. The same is the effect of Fermentation; the *Acid* acts on the *Oyl* by degrees, and mixes with it; and because their mixture happens in a Fluid, the Water is also intermixt with them, and thereby the *Oyl* is dissolved in the Liquor, and produces a Winy Spirit; which diluted in much Water, is called a Wine; and if it be distilled from it, a *Brandy* Spirit, which is Inflammable like *Oyl*: If the greatest quantity of *Oyl* be evaporated out of Wine, a *Vinegar* is produced by the remaining and prevailing *Acid*, which has its Pungency from some Oyly parts, which are still mixt with the *Tartar* of *Vinegar*; and which

which will yield a burning Spirit, if *Vinegar* be distilled from *Saccharum Saturni*. The Agitation which happens from the Effervescence of these two Principles in Fermentation, shakes all the parts of the Liquor Fermenting; whereby the most Feculent parts in Wine, and the greater Farinaceous parts in *Beer* subside; but the more light, rise to the top of the Liquor in an Effervescence. These *Heterogeneous* parts being separated, the remaining Liquor is clear, and consists of a Winy Juyce, in which the *Oyl* is most prevalent; and has also an *Acid* mixed with it. And in *Beer* the Farinaceous parts are much rarefied, having their *Oyl* very much loosened and sharpened by the *Acid*; and from hence proceeds the quickness and briskness of Liquors.

Dr. *Willis* in his *Pharmaceutice* mentions a way of distilling an *Oyl* from Spirit of *Wine*, by means of a strong Spirit of *Vitriol*: Therefore *Acids* help the Separation of *Oyls*, from the mixture in Plants. For this end, we put *Tartar* or *Salt* into the *Vesica* with Seeds, which are to be distilled; for the separation of the *Oyl* is thereby promoted.

The *Oyl* of *Wines* is sufficiently proved by Dr. *Willis's* Experiment, and the *Acid*
 • by

by *Tartar*: but it's not improbable, that some *Salt* is also produced by this mixture of *Oyl* and *Acid*, with a little *Earth*; Which is most clearly proved by the *Salts*, which are described by Mr. *Lewenhock* in many sorts of *Wine*; which, as I remember, differ not much from the *Salts* of *Vinegar*.

The *Oyl*, *Acid*, and the Volatile *Salt* united in Spirit of *Wine*, are much of the nature of a dissolved *Refin*, having the same Principles; and therefore easily Extract *Refins*, and *Oyls* of *Vegetables*, and turn Milky, if put to a Watry Vehicle.

By the means of an *Acid* in the Spirit of *Wine*, Spirit of *Sal Ammoniack* coagulates with Spirit of *Wine*, into an *Offa Alba*.

A Slimy *Oyl* such as is in the Yelk of an Egg, makes distilled *Oyls* to dissolve easily in Watry Liquors; and therefore there is found a Mucilage or Gumminess attending most *Vegetable Oyls*, whereby the *Oyls* are mixed with their Juyces.

Sugar is an *Oily Acid*, like *Tartar*; with this a distilled *Oyl* easily mixes, and is by this means dissolved in *Water*.

The Spirit of *Vegetable Liquors* Fermented and Distilled, is nothing but an *Oyl* rarefied, and loosened from the mixture

ture of the Juyce, by means of the *Acid*; and by their mixture, also some Volatile *Salt* is produced; therefore these Spirits are Inflammable, like *Resins*; and they are no Simple Principles, but compounded of others. This Spirit is produced by Fermentation; and therefore can be no Cause of it, as is ordinarily supposed. Spirit of *Wine* is, by reason of its Resinous Composition, agreeable to the Red part of the *Blood*, and is a familiar Specifick to supply its Defect, and excite its brisk motion; whereby it is Cordial, Refreshing, and supplying new Spirits by its Similitude of Texture. The long use of it brings a *Phthisis*, by too much rarefying the *Blood* into *Salts*, or a *Dropfie*, thickning the *Serum* of the *Blood*; whereby the *Viscera* are obstructed, and Sanguification destroyed, by the unaptness for mixture with the new *Chyle*.

Spirit of *Wine* tastes Sweet, very Hot, and Pungent; the Sweetness is from the *Oyl*, and the hot Pungency from a Volatile *Salt*.

Leaven smells strong of Dough, and Ferment tastes Salt and Sourish; by the addition of tum panis; common Salt to Dough, the Oily parts ^{ficum,} of the Meal are loosened from the mixture;

ture; for the *Acid* of *Salt* is Pungent, whereby it breaks the Texture of the Farinaceous parts, and sets the *Oyl* more free, by combining with the *Earthy* Particles; with which, all *Acids* readily mix. When the *Oyl* is loosened from its mixture with *Earthy* Particles, by the *Acid* of the Ferment, it is easily agitated by the *Air*; and by the Contrariety of parts, the *Oyl* and *Acid* act on one another, and cause a Heat, and make the whole mixture swell; as it happens in *Electuaries*, in which Contraries ferment.

Leaven is kept a good while; whereby it is made more Sowre, and thereby fitter to begin a Fermentation in other Dough. The *Oyl* of the *Leaven* being more loosened by Fermentation, is moderately Hot, and also *Salt* and Sowre, which temper the Heat. And *Leaven* is used outwardly in drawing *Flasters*.

Wheat and *Barley*, considered in their perfect State as *Vegetables*, taste Sweet and Slimy; when prepared for *Bread* or *Beer*, they are reduced into *Meal*, which still has the Principles unaltered; which in both were an *Oily Acid*, with a Slime, which is a more fixt *Oyl*. When these Plants are fermented, the Mixture of these Principles must be destroyed, the
Oyl

Oyl must be rarefied, and the *Acid* freed from *Earthy* parts; whereby its Pungency may give a quickness to the Liquor: The Sliminess is attenuated by the *Oyl* and *Acids* commotion; and by that the *Oyl* and *Acid* are dissolved in the Liquor; or else huff the Farinaceous Mass in the making of *Bread*.

Barme is the fine part of the *Farina Flos Cere* decocted, which wants room in the Fer-
menting Liquor; and therefore by the Agitation of parts (during the Fermentation) is displaced, and by its lightness is carried to the top of the Liquor; and it tastes Slimy; without any manifest Acidity: By the Bubbles it is probable, that some Spirituous parts are mixed with it, which consist of an *Oily Acid*; and therefore it is used to excite a new Fermentation in other Liquors. Such frothy Bubbles are observable in Bottled Liquors, from a Windy Spirit flying up to the top of the Liquor, which is inclosed with Froth.

Sugar Ferments all Liquors and *Electu-* *Saccha-*
aries: It consists of an *Oyl* and *Acid*; which *rum*.
being dissolved in *Water*, ferment together, and obtain a looser Texture, whereby a Windy Spirit is produced. And

from this Instance it appears, that an *Oyl* and *Acid* are sufficient to produce a Fermentation, which must be continued by the same, by which it was produced; that is, by the Agitation of an *Oyl* and *Acid*; and the effect of Fermentation is a looser Texture of the *Oyl* and *Acid* of the Body, which is Fermented; which *Oyl* and *Acid* give the Winy Taste to Liquors Fermented.

The Contrariety of an *Oyl* and *Acid* may more evidently appear by the mixture of *Sulphur*, which contains an *Oyl* and *Acid*; and for that reason is the immediate matter of *Fire*. The *Oyl* and *Resins* of *Vegetables*, and *Fats* of *Animals*, burn as readily as *Sulphur*, and have the same disturbed Flame: From whence, a Contrariety of parts, and an Agitation depending on that Contrariety, may be infer'd; which is yet more manifest in the detonation made betwixt *Sulphur* and *Nitre*; and the explosion by the mixture of both with an *Alkali*.

If *Oyl* and *Acid* produce a Flame by a violent motion given them by *Fire*, it seems probable, that the same having a gentler Agitation from the parts of a Ferment, or the external heat of *Fire* or the *Sun*, produce in *Vegetable* Juyces a brisk
Agi-

Agitation of parts; which Agitation is promoted by the Contrariety of parts in *Oyl* and *Acid*: As *Acids* help the production of Flame from *Oyls*, and make it burn with some noyse; so in Fermentation, the *Oyl* and *Acid* of *Vegetables*, as soon as the Sliminess natural to *Oyls*, is dissolved in *Water*, are set free, and are the chief active Principles, which may easily be agitated by a Ferment; whose parts have been put into motion by a former Fermentation (whose effects, viz. an *Oyl* and *Acid*, it also contains.)

The great force of Vegetation, and the breaking of Bottles and Vessels by Fermented Liquors, can no way be explained but by some Effervescence, which comes near the nature of Explosion. Such is the Contrariety of *Oyl* and *Acid*, briskly agitated by an External Heat.

The effects of *Sulphur* and *Oyl* are contrary to *Acids*, and correct them; and *Acids* fix *Sulphurs*, and coagulate Volatile *Oyls*; and therefore they act one on the other, and are contrary.

I do not affirm, That all *Oyls* and *Acids* mixt, will presently ferment; but there must be an actual Heat given them by External Fire, or Internal Fiery Particles, lodged in *Oyl of Vitriol*, or by a Ferment.

in Artificial Fermentations, or the *Sun* in Vegetation of Plants; which grow not till an External Heat excites the Motion of the *Oyl* and *Acid*, natural to all Plants: and in the mixtures I have mentioned, the Heat is not immediately perceived, but after some time; so in Fermentation immediately produced by a Ferment, but in some space of time.

CH A P. VIII.

Of the Preparation of Vegetables.

Since the Vertues of *Vegetables* may be known by their Tastes and Odors, I may also affirm, That the truest way of judging what Preparations are the fittest for each *Vegetable*, is, by the Taste and Smell; and that is the best Preparation, in which the Taste and Smell is preserved.

Nature it self has Prepared our Medicines by Mixtures, Strainings, and Digestions; and given to each Plant a particular

cular Composition of Tastes, and sometimes Compounded Odors, designedly suited and fitted for the particular vitiated Humors in *Animals*. For Plants were not only designed for our Nourishment, but likewise for our Physick; and those that were for Food, are found out by their pleasant Sweet Taste, and grateful Odor; but those for Medicine, by the Offensive or Nauseous Taste and Smell.

If we should torture our Nourishment by the same degrees of *Fire*, as Medicines are Prepared, we should destroy that natural Sweetness of our Food; which is a fitter Taste for Aliments, than those of *Spirits*, *Oyls*, *Salts*, *Tinctures*, &c. So it happens in Medicines, when we distill *Oyls*, Ferment the Juycs into *Spirits*, and make *Tinctures*, we make new Mixtures, and destroy the natural Tastes and Vertues of *Vegetables*.

This appears evidently in *Gentian* and *Myrrhe*, which are strong *Bitters*, and correct *Acids*. If they be distilled in Retorts, they yield a great deal of *Acid*, and a Nauseous *Oyl*; neither of which can have the effects of *Gentian*, nor the Taste; which is Bitter, Slimy, and Sub-acrid.

I may instance in Purgers, as *Rhubarb*, which will yield a fixt *Salt* by Calcination, but that will not purge; and the greatest of *Vegetable Medicines*, *Cortex Peruvianus* will not have so good and certain effect in Extract and Infusion, as in Powder; but its Vertue is perfectly destroyed by *Chymistry*, which dissolves its Texture, and alters its Taste.

Acid of Tartar, or *Vegetables* distill'd, yields a Fetid Oyl, and becomes of a Smoaky Taste, less agreeable to the *Stomach* of an *Animal* than the Tartness of Fruits, and the Juices of Sowre *Vegetables*. The *Fætor* is inseparable from it, which is very disagreeable where *Acids* are necessary. *Spirit of Tartar* has not the nature of an *Acid*, but is mixt of *Acid* and *Volatile*; and therefore neither the Sowreness nor Vertue of *Tartar* remains in the Spirit; but a new Texture of its Principles is produced, and new Vertues.

If from Aromatick Plants, as *Wormwood* or *Mint*, we distill an Oyl; that will have the Bitterness and Acrimony of the Plant, but will want the Astringency of it; and besides the *Empyreuma*, which makes it very Burning inwardly, the Oily Salt is more Burning and Hot than our *Humors*, *Spirits* and *Membranes* can indure; therefore

fore when it is thus Prepared, we find it necessary to remix it with gritty Powders, and take them in a cool Vehicle. These distilled Oyls are not therefore much used, unless for outward Applications.

I cannot deny that some Preparations are necessary for Medicine, as well as Food; but these must be suited to the nature of each particular, so that thereby the natural Taste be not destroyed. These Preparations seem rather necessary, upon the account of being put into a more convenient Form or Dose, than for the Improvement of the Medicine, or separation of noxious parts from it.

A *Resin* is extracted or dissolved out of its Vessels, by a *Menstruum*; but this alters not its Nature nor Taste; it has a stronger Irritation if it be a Purger, than four times the weight of the Plant it is drawn from. In *Resin* the Dose is less; but it seems very doubtful, Whether the Vertue of the *Resin* equals the Root of *Jalap*? which tastes *Gummy*, and not *Brittle*, as *Resin*. This also smells *Sowre*, and the Root *Acrid*, if fresh. It is certain, that the Extract of *Rhubarb* works not so much as the Powder; and the *Resin* will not work on some Persons, whom the Powder of *Jalap* purges very well.

The

The most natural Preparations, are *Decoctions, Infusions, Juices, Syrups, Powders, Expressed Oyls from the Seeds, Emulsions, and Conserves.*

In all these the Taste is preserved, which depends on certain Principles; and by preserving the Taste, we are sure of that Texture of Principles, on which the Vertue depends: But if any Preparation separate the Principles, it destroys the Texture, on which both the Taste and Vertue depend.

Tinctures, Distilled Waters, Chymical Spirits, Oyls, Extracts, and Mucilages, contain but some of the Vertues of Plants, and not the whole Taste and Smell. *Tinctures* have the *Resins*, Distilled-Water the *Odoriferous Resins*. *Spirits* have the *Oily Salt* diluted in *Water*. In *Oyls* there is most *Oyl*, and less *Salt*. In *Extracts* a little *Oyl*, and a great quantity of *Tartar*, and much *Earth*.

Digestion alters the nature of the Plant a little, but Putrefaction most; Fermentation in a way betwixt both. Calcination perfectly destroys a Vegetable Taste and Vertue.

These Preparations are most genuine, in which the whole Composition of Tastes and Smells is evident.

The

The next is to be esteemed good, which has one Principle or more, or some Compound Juyce; as *Milks, Resins, Tartar, Gums, and Turpentine*s well Extracted.

Those are of least note, which destroy the nature of a Plant; as *Putrefaction, Calcination*; for these do not improve or extract its Vertue, but produce new mixtures, which may be useful; but they have not the Vertue of the Plant.

A Catalogue of Tastes of Vegetables, which are best Preserved in the Preparations following:

Gritty Tastes are best preserved in Powder. If any *Acid* be added, they lose their Taste and Vertue. I.

Woody Tastes are fittest for Decoctions, and are destroyed by Distillation in a Retort. And also for Powders. II.

Watry Mucilages are well Prepared by Decoction, Infusion, Expression of the Juyce; and indifferently by cool Distillation; for *Borage-Water* is Slimy. The Mealy Mucilages may be powdered. III.

Acids

- IV. *Acids* yield a good, and most Essential Salt, or *Tartar*: They are best used in Juyce, Syrup, and Quiddany. Distillation and Fermentation alters the Taste, and makes it Spirituous.
- V. *Strypticks* are good in Powder, Decoction, and Syrup. Distillation carries off no Vertue, if it be in cool Stills; if in an open Fire, it changes them into *Acids*.
- VI. *Sweet Tastes* appear most in Powder, Juyces, Syrups, and Decoction, and but little in Distillation.
- VII. *Watry Bitters* are fittest for Juyce and Decoction, and yield an insipid Water by Distillation.
- VIII. *Strong Bitters* are fit for Decoction, Extract, Infusion, and Powder; but yield little in Distillation.
- IX. *Bitter - Acrids* and *Bitter - Aromaticks* yield their Volatile *Acrid* and Smell, only in the distilled Water; but the *Bitter* by the ways mentioned.

The *Terebinthines* give their *Turpentine* in distillation, and their *Bitter-Astringency* in Powder or Decoction; but a close Infusion extracts all. X.

Acrids are fittest for Distillation and Infusion, but are lost by Powdering and Boiling. XI.

All Compound Tastes are to be Prepared according to the several Tastes; but because these will not admit many times of the same Preparations, we ought to take that Preparation in which the fewest Tastes are altered; or else mix different proper Preparations of the same Medicines, which are contrived according to their several Tastes.

Aromatics are good in Powder, Infusion, and distilled Water; but lose much by Decoction. XII.

The Odoriferous Smells of Plants is best obtained in Distilled-Water, Infusions, and in Oyls.

The *Narcotick* Smell of Plants rises in *Poppy-Water*. And we extracted by *Spirit of Wine*, *Opium* very well.

The *Hysterick* mixt Fetids yield good Water, and all other Fetids.

By

By the particular Instances I have given, it does appear necessary, that before we prepare any Medicine, we ought to taste it; because, if we find the same Taste in the Medicine when prepared, we may conclude, that it has the whole Vertues of the Plant: This is therefore, the most rational way, whereby all our Simple Medicines ought to be examined; and for this reason, Compounds ought to be rejected; for tho' we know the Vertues of the Simples, yet the resulting Taste of Compositions is not certain; and therefore the Vertues of all great Compositions is very uncertain, and only found out by Experience, which alone teaches us the Vertues of *Mithridate*, *Treacle*, &c. In these confused Compositions, the Taste of the Simples is altered, and no particular Taste is discernible; therefore each particular Taste has its Nature and Vertue altered by the Fermentation, which happens in such Mixtures; and also by the Contrariety of one Taste to another.

The End of the First Volume.



ADVERTISEMENT By the Publishers.

T*Hus much of the Third Part (relating more nearly to Vegetables) was thought proper to go along with the Part that treats of them. The next Volume (now in the Press, and which will be Publish'd next Michaelmas-Term) shall begin with the Remainder of the Third Part, which treats of Salts, and the Mineral Kingdom. The Animal Kingdom will be also considered. Specificks shall be Classed. Plants shall, according to their Tastes, be reduced to their Summa genera: and, according to the Compositions of their Tastes, and distinguishing Smells, they shall be sub-divided into Species. And as to usefulness, What follows That which is here hinted, will exceed what you have already. The AUTHOR's absence from the Press must entitle him to an Excuse from its Errata; but especially, his late desperate Sickness is his sufficient Apology: In his Recovery from which, as he himself has reaped the Benefit of his own Art; so let it be the good Wishes of the Sons of Art, and of all good Men, that he may long survive his Danger; and live to have the Satisfaction, while the World has the Advantages of his great Learning, Skill, and Industry.*

ADDENDA.

A *Sphodelus*, according to *Galen*, is Bitter in the Root, like *Squills*; and Acrid, like *Dragons*: But in the *Botanicum Monspeliense*, it is describ'd to be Acrid, with a Nauseous Sweetness. I only tasted the Leaf.

I have given the Taste of *Veronica*, instead of *Elatine*; which, as *Mr. Ray* says, is a *Linaria*.

Fraxinella is like the True *Dittany* in Vertue, being *Alexipharmack* and *Uterine*; and not like *Rue*: The Roots are chiefly us'd.

Nummularia is not of a *Terebinthinate*-Smell, as I at first thought it; for since I could not observe it to be so.

Prunella is Bitterish-Astringent in the Root.

Pseudo-Melanthium is rather a *Lychnis*, than *Nigella*; the Black Seeds tasting Sweet and Acrid.

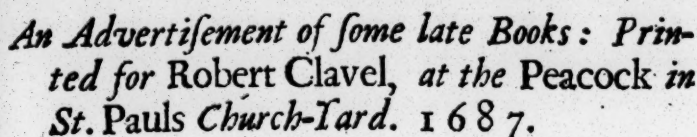
Radix-Rhodia: The Root smells like a *Rose*.

Umbilicus Veneris is not Biting; but may be accounted a *Sedum*.

ERRATA.

What hath been already said, we hope, will oblige the Reader, to Amend or Excuse these Errors, and all others that shall occur herein to his Observation.

PAge 13. Line 11. for *discuss inwardly*; are read *discuss; inwardly are*. p. 22. l. 19. f. *Trees* r. *Plants*.
Ibid. l. 20. dele *Lilies of the Valley*. p. 27. l. 5. for *Urine*, r. *Urine*; p. 29. l. f. *Agarick, Rubarb: And r. Agarick: Rubarb and*. p. 32. l. 16. f. *Windy* r. *Vinous*. p. 82. l. 1. del. by. Ibid. l. 3. for *Object an* r. *Object, an*. p. 87. l. 5. r. *It is therefore a good Vulnerary, and works*. p. 92. l. 14. f. *Alder* r. *Elder*. p. 120. l. 1. f. *Carminative Colick* r. *Colick Carminative*. p. 164. l. 19. f. *Acrid* r. *Acid*. p. 178. l. 3. del. and *Willow*. Ibid. l. 5. r. *Ofier* and *Willow*. p. 181. l. 17. f. *Strong, Bitter* r. *strong Bitter*. p. 207. l. 19. f. *Arba Venenosa* r. *Arbor Venenosa*. p. 222. l. 5. f. *Ale-Coff* r. *Costus* (as the English Name.) p. 235. l. 1. del. *Chama-drys* has the same Taste. p. 241. l. 16. f. *Mastich-Thyme* r. *Syrian-Mastich*. p. 257. l. 11. f. *the same* r. *the following Powder*. Ibid. l. 14. f. *a Scruple* r. *Twenty-four Grains*



Grammatica Anglo-Romana: or, a Syncretical Grammar, Teaching *English* Youth the *Latin* Tongue, by few and easie Rules, comparing *English* with *Latin*. With a Comment for the Use of Riper Years, containing the Elegancies, and explaining the difficult Phrases and Idioms, which are peculiar to the *Latin*. Fitted to the Sense of the Learned *Oxford-Commentators* upon *Lilly's Grammar*. By *Samuel Shaw*, Master of the Free-School in *Ashby-de-la-Zouch*, in *Leicester-shire*.

A Discourse concerning a Judge of Controversies in Matters of Religion: Being an Answer to some Papers asserting the Necessity of such a Judge. With an Address to wavering *Protestants*; shewing what little reason they have to think of any Change of their Religion. Written for the private Satisfaction of some Scrupulous Persons: And now Published for Common Use. With a Preface concerning the Nature of Certainty and Infallibility. By an *Eminent Author*.

An Historical Description of the Glorious Conquest of the City of *Buda*, (the Capital City of the Kingdom of *Hungary*) by the Victorious Arms of the Thrice Illustrious and Invincible Emperour, *Leopold* the First, Under the Conduct of His most Serene Highness, the Duke of *Lorrain*. In 9 Sheets.

The Plausible Arguments of a *Romish Priest* from Scripture, Answered by an *English Protestant*. Seasonable and Useful for all *Protestant* Families.

The Plausible Arguments of a Romish Priest, from Antiquity, Answered by the Author of the Answer to the Plausible Arguments from Scripture.

A plain and familiar Discourse (by way of Dialogue) betwixt a Minister and his Parishioner, concerning the *Catholic Church*. In Three Parts. I. Shewing what's the Nature of the *Catholic Church*. II. That the Church of *Rome* is not the *Catholic Church*. III. That the *Scriptures*, and not the *Church*, are the Rule of Faith. Which may serve as an Answer to some late Tracts upon that Argument: By a Divine of the Church of England.

A Discourse of DUELS; shewing the Sinful Nature, and Mischievous Effects of them: And Answering the usual Excuses made for them, by *Challengers, Acceptors, and Seconds*. By *T. Comber, D. D.*

Of the Authority of Councils, and the Rule of Faith: With an Answer to the *Eight Theses*, laid down for the Tryal of the *English Reformation*, in the Book that came lately from *Oxford*.

The Law and Equity of the Gospel, in two plain Sermons, &c. By *Tho. Pierce, D. D.* and Dean of *Salum*.

The History of the *English Monarchy*, shewing the benefit of Kingly Government, and inconvenience of Common-Wealths, &c.

An Historical Vindication of the Divine Right of Tithes, from Scripture, Reason, and the Opinion and Practice of *Jews, Gentiles, and Christians* in all Ages, designed to supply the Omissions, Answer the Objections, and rectifie the Mistakes of *Mr. Seldens* History of Tithes, *Part I.* A further Vindication of the Divine Right of Tithes, proved by Scripture and Antiquity, and Illustrated by the Solemn Consecration, and great Conveniency of them; with an Answer to the Objections of other Authors against them, *Part II.* To which is added, A Discourse of Excommunication. By *Thomas Comber, D. D.* Precentor of *York*.

— A Church Catechism, with a brief and easie Explanation thereof, for the help of the meanest Capacities, and weakest Memories, in order to the Establishing them in the Religion of the Church of *England*.

Sir William Dugdales Summons to all Parliaments, since the 49th. Year of King *Henry* the Third.

The Dean of *Durham's* Counsel and Directions (Divine and Moral) in Letters of Advice to a Young Gentleman, soon after his Admission into a Colledge in *Oxford*.

Arch-bishop *Stern's* Logick.

The *Pope's Bull* concerning the Damnation, Excommunication, &c. of Queen *Elizabeth*, with Observations and Animadversions thereon. By *Thomas* Lord Bishop of *Lincoln*. There is also Printed with it the *Popes Bull*, for the Damnation and Excommunication of King *Henry* the Eighth.

The *Catholick Balance*, or a Discourse determining the Controversies concerning, 1. The Catholick Doctrines. 2. The Primacy of *St. Peter*, and the Bishop of *Rome*. 3. The Subjection and Authority of the Church in a Christian State: According to the Suffrages of the primest Antiquity. Written with most Impartial Sincerity, at the Request of a Private Gentleman.

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:

OR, THE

Touch-stone of Medicines, &c.

V O L. II.

Containing Four P A R T S.

Part the Third,

Of the Tastes and Virtues of *Minerals*,
and the similitude of their Principles,
to those of *Vegetables*.

Part the Fourth,

Of the Tastes and Virtues of *Animal Me-*
dicines, and the Origine of *Animal Humors*.

Part the Fifth,

Containing the Classes of *Specificks*,
distinguished by their Tastes, and the Hu-
mors which they Correct.

Part the Sixth,

Contains a new Method for distinguishing Plants
into Classes, by their Tastes and Smells.

In the Appendix,

The *Animal Medicines* are reduced into a Scheme
by their Tastes. The *Minerals* are also di-
gested under their several Tastes, and many
Observations are added, which were omitted
in the preceding Parts.

TO THE
Right Honourable
WILLIAM
Lord Digby, Baron Digby
OF
Geashil in IRELAND.

My Lord,

I Designed the subject of this Essay at *Coleshil-Hall* in *Warwick-shire*, whilst I attended there as a Physician: And therefore I humbly apply my self to your Lordship, for the Patronage of it.

The great Favours I have received from your Honourable Family, oblige me to make this Dedication; but especially your Lordship's curiosity in reading the Philosophy of this Age, and your Ingenious Studies, which have given your Lordship the advantage of judging of a greater Subject.

A 2

I am

The Epistle Dedicatory.

I am much obliged to many Gentlemen of your Country, who have Tasted many Plants with me; and I desire to make this Tract more acceptable to them, by this Dedication of it to your Lordship, whom they justly Honour and Esteem, for your Zealous concern, for the Preservation of our Church and State.

I will give your Lordship this short account of the design of this ensuing Book.

I shall assert, that *Minerals, Animals, and Vegetables*, have *Water, Earth, Oyl, and Acids*, for their Principles: Of these they are compounded, and into these they are ultimately resolved: Generation being the mixture of Principles, and Corruption the separation of them.

This Opinion agrees with, and illustrates the Antient Hypothesis, That all Bodies are compounded of *Moist, Dry, Hot, and Cool* Principles.

The Humidity depends on the *Water*, the dryness on the *Earth*, the *Oyl* is Inflammable, and the Matter of Fire in *Vegetables*: In *Minerals*, the *Oily Sulphur* burns; in *Animals*, the *Oily Fat* is Inflammable: The *Oyls, Fats, and Sulphurs* are the same *Oily Principle*, but they differ by their several States, Mixtures, and Digestions.

The *Acid Principle* produces Coldness in *Animal Humors*, according to *Hippocrates's* Observation, οξεία ψυχρά: And it is observable, that *Nitre*, which is *Acid*, tastes very Cool; and the Sulphureous *Acid*, which abounds in the Air, is esteemed the Principle of Cold.

The

The Epistle Dedicatory.

The Oyl Principle is the Hot Principle in *Animals*, as *Hippocrates* affirms, τὰ γλυκέα, καὶ τὰ πίονα, καὶ τὰ λιπαρὰ, πληροῦν τὸν δερμὸν ἐν τῷ αἵματι,

Because the Ancients observed these Qualities to abound in *Earth*, *Water*, *Fire*, and *Air*, they called these *Elements*, and supposed all Bodies to be compounded of them. Those Constitutions they called Dry, in which *Earth* abounds; those Moist, in which *Water* prevails; the Oyl high digested makes the Constitution Hot, and a great Acidity renders the Constitution Cold.

Galen describes *Choler* as Bitter, Acrid, and Detergent; *Phlegm*, as Crude, Slimy, and Cool. The *Atra bilis* is described as Acid, which *Galen* says, is evacuated into the Stomach, and there becomes Styptick. *Hippocrates* affirms the *Atra bilis* to be Viscid, χυμὸν γλοιώδη, so that by *Atra bilis* the Ancient Physicians understood the Slimy Acid of the *Spleen*, which, when the *Spleen* is obstructed, is carried by the Arteries of the Stomach into its Cavity; where this Slime and Acidity abounding, produce the *Flatus Hypochondriacus*; and this Acidity descending into the *Guts*, turns the *Choler* it there meets into a black Colour, from whence it has the name of *Atra bilis*.

From the taste of these Humors, Bitter, Acrid, *Choler*, Acid, *Lympha*, and Viscid Slime, the Famous *Sylvius* deduces his Notions of all Diseases, as the Ancients did from *Choler*, *Phlegm*, and *Atra bilis*. But I will, in this Treatise, present your Lordship with

The Epistle Dedicatory.

with a larger Scheme of *Animal Humors*.

I shall endeavour, in this Tract, to explain the Virtues of *Mineral* and *Animal Medicines* by their Tastes and Smells, as I have done that of *Vegetables*: Though *Galen* did exactly describe the Tastes of *Vegetables*, yet he was wholly perplexed about *Minerals*; and the same is the general fault of the Chymists, who attribute wonderful Effects to their *Gold Medicines*, but observe no Taste, though the sweet Stypticity is evident in Tincture of *Gold*, from whence it has its Vertue.

That *Vegetables*, *Minerals*, and *Animals* have the same kind of Taste at first, may seem strange, but we must consider, that *Vegetables* receive their Juices from *Minerals*; (to prove this, I need only instance in *Hepatica Terrestris*, which smells of a *Petroleum*) and *Minerals* have their Acid, Sweet, Slimy, and Bitter Tastes: Out of these the Juices for *Vegetables* is prepared by Fermentation, and the dissolving Power of the *Sulphur-Acid* in the Air: If this Nourishment be ill prepared, it keeps its *Mineral* Nature, and petrefies Plants, hence Stoney parts are observed in *Oaks*, whilst growing; and *Coral* smells Earthy and Sulphureous, like a Flint, if two pieces be rubbed together.

I must farther observe, that *Animals* have their Sweet, Bitter, Salt, and Acrid Tastes from *Vegetables*, which, by Putrefaction acquire an *Animal* Nature, yielding Urinous Spirits; and all *Vegetables* become fit Nourishment for *Animals*, by their Fermentation in the Stomach.

Many

The Epistle Dedicatory.

Many *Marine* Plants, such as *Sponge*, have a middle state of Principles betwixt *Vegetables* and *Animals*, and therefore yield a Volatile Salt, like *Animals*, and Fixt, like *Vegetables*.

I will give one Instance from the greatest of our *English* Physicians, Dr. *Willis*, to shew his Opinion of the usefulness of a Rational, from the taste of an Empyrical Medicine in the *Chincough*, from whence he framed his Methodical and Rational Cure of it. He examined the Virtue of *Cup-moss* by the Taste, and says, *Virtutis astringentis est, atq; particulas nonnihil acres salis volatilis copiam redolentes in se continet, unde conjectari licebit usum ejus esse sanguinem figere, seriq; fluxiones sedare, ac insuper succum nerveum volatilizando, diathesin spasmodicam tollere.*

The Virtues of Medicines were first known by the Tastes of our Diet, which vitiates the Humors of our Bodies, by its Bitter, Acrid, Salt, and Aromatick Tastes (the most natural Diet being of a Sweet Taste): And by these Tastes also, the preternatural Humors were observed to be rectified.

These Tastes were well known to Mankind, whilst they fed most on *Vegetables*; and this Age therefore knows less of them, because they are little used in our Diet: For which reason, I believe, the Virtues of Plants have been esteemed occult Qualities, which were discovered by Experience, and not by our Senses. But this Tract will satisfie the Sceptical, in giving them a sensible Testimony of
of

The Epistle Dedicatory.

of the nature of *Animal Humors*, and the operation of Medicines on them, by their suitableness to their Tastes, Principles, and Digestions.

This Design will thwart the Opinion of *Astrologists*, who fetch the Virtue of Plants from the Planets; and also the Opinion of the *Helmontian Archeus*, and the spirituality of occult Qualities in many *Minerals* and *Stones*; and all the sympathetic Conjurations in *Amulets*, which have no sensible Qualities.

My Lord, I have given you an Account of my Design, and hope you will accept it, as a Testimony of my being,

My Lord,

Your Faithful

Humble Servant,

John Floyer.

THE

T H E

P R E F A C E.

NOT only Aristotle, but most Philosophers since, have compared the Taste to the feeling of an Object: And since the Taste discerns all its Objects by their Contact, and the Organ of Feeling has the same Nerveous Papillæ covered by a Membrane, it may not improperly be called so.

I think it necessary (for the distinguishing of Tastes) to observe a diversity in their Contact of the Organ; for some Tastes only superficially touch the Membrane of the Tongue, and therefore they chiefly affect the exterior Skin of it; as those things we Feel, touch only the superficial skin of the Fingers, the Papillæ feeling through the Skin, as we do through our Gloves. Other Objects we Taste, insinuate their Particles into the Porous skin of the Tongue, and immediately affect the Papillæ Nervosæ, which Malpighius describes, as the Fingers whereby we feel the Figure and motion of some minute Particles we Taste, and by this we chiefly distinguish the Organs of Feeling and Tasting.

The Taste is properly a more curious and exquisite touching of the minute Particles of an Object: Hence

The PREFACE.

it is, that we discern those Qualities we Feel, by the Taste also; but we Taste more than we Feel.

We both Feel and Taste,

1. *The hardness in Woods, Stones, Metals, and Bones of Animals.*

2. *The softness in Pulps, and the Parenchymous parts of Plants and Animals.*

3. *The driness in Woods, Stones, and Minerals.*

4. *The humidity in Juices.*

5. *The viscosity in Gums, Glews, and Turpentine.*

6. *The toughness or stringiness in the Muscular Flesh, and the Wood of Plants.*

7. *The Friability in Resins.*

8. *The Roughness in Astringents and Vitriols.*

9. *The Smoothness in Slimes and Oyls.*

In these Tastes the Object chiefly affects the skin of the Tongue, and the Papillæ Nervosæ immediately through that : Because we both Feel and Taste these Qualities, these are most improperly called Tastes; and the Antients did not commonly allow them all to be Tastes, but since they allowed of Astringent Tastes, why not of Hard, Soft, Dry, Humid, &c. and since we discern them by the Tongue, which is the common Organ of Taste; and that does more certainly and exquisitely discern these Qualities than the Fingers; I have called them Tastes, and I find both Hippocrates and Galen speak of some of them, as Tastes sometimes.

By

The P R E F A C E.

By the Taste only we discern most clearly and perfectly,

1. *The Sweetness of an Object, which is only smooth to the Touch.*

2. *The Bitterness, and this is only drying and detarging in the Skin of the Fingers.*

3. *The Aromatics and Fetids affect the Taste, and are not at all discerned by the Feeling.*

4. *Saltness is perceived by the Taste only, but it dries the Skin of the Fingers, as well as the Tongue.*

5. *The Acrids and Corrosives, if long applied, fret the Skin of the Body as well as the Tongue.*

6. *Sourness is not perceived by the Organ of Feeling, but only the Roughness attending it.*

These are called most properly Tastes, because they affect the Papillæ Nervosæ immediately, and not only through the Skin of the Tongue, as it is in Feeling, by other Parts.

By these Tastes we perceive the minute Particles of Bodies; but by the former, we observe only the superficial Textures of them.

I will next give some Instances of the usefulness of Tasting our Medicines; for by the Tasting of them we observe,

I. *Their Consistence, as Hardness, Softness, Driness, Humidity, Viscidity, Toughness, Friability, Roughness, and Smoothness of their Superficies.*

The PREFACE.

II. *The Figures of their small Particles.*

1. *The cutting edges in Acids.*
2. *The sharp Pungency in Acrids.*
3. *The pungency and driness in Salts, being like the Panes of Glass.*
4. *The pungent, hot, crooked Particles in Corrosive Tastes.*

These stick long on the Tongue, and probably have an Acidity joyned to their Volatile Oyls or Salts, whereby their Figures are made irregular, tearing, and corrosive. So in Minerals, the Acid joyned to a Volatile Sulphur produces a burning Acid Corrosive. And in the Roots of Pellitory in the Shops, we first observe a burning Pungency, and afterwards a sowre cool Taste; and these Tastes, like that of Aron's Pungency, appear not till after some time. Some fixt Salts have various Figures, and I may suppose that Volatiles have also a diversity. Acrids have streight, pungent Particles like Needles, but the Corrosive may be crooked Hooks, tearing and vesicating.

III. *We discern the motion of the small Particles of Bodies by the Taste.*

1. *Hot, from the Pungent, Penetrant, Acrid, or Corrosive Tastes.*
2. *Coolness in the sowre, slimy, watry, crude Tastes.*
3. *A pleasing Titillation in the Aromatick Tastes.*
4. *Offen-*

The P R E F A C E.

4. *Offensive impressions in the fetid nauseous Tastes.*

IV. *By the Taste we observe the Dose of our Medicines; for if the Heat be great on our Tongue, we give the less; and if the Taste be not very offensive, we give the greater Dose.*

V. *By the taste of the Medicine we observe, what Preparation is most fit for it, which I have mentioned in the first Volume.*

VI. *By the Taste we observe the suitableness of the Medicine to particular Humors in Animals, which have the same, or a contrary Taste.*

VII. *By the Taste we observe the agreement of one Medicine with another, whose Vertues we know; and from thence examine the Vertue by this general Touch-stone, viz. Those things which agree in Taste, agree in Vertue. I will therefore recommend this, as the chief Sagacity in Tasting, to discern the similitude in Tastes, and when we have given all the sensible Modes of Tastes, we ought, if possible, to compare it to some known Tastes: So in the Chermes there is a Bitter Astringency; but besides that, it has a similitude to the Taste of the Cortex Peruvianus, and they have both the same effects in Fevers. This similitude must be allowed a great latitude; for one thing may be like another in Taste, but yet have some difference, but not able.*

The PREFACE.

VIII. *By the Taste we observe the Alterations made by Fire in Chymical Preparations, and those made in Vegetables, by ripening of Fruits.*

Though by Chymistry we extract the Principles of Bodies, yet the Taste only or chiefly shews their Figures, Motions, and Effects on the Body; and also that which we can no otherwise observe, the Figures, Motions, and Effects which depend on the mixtures of the Principles; therefore it is not sufficient to observe the Acid in Oyl of Vitriol or Sulphur, and the hardness in Steel; but we must observe the Vitriolick Taste produced by their mixture and dissolution: Therefore Chymists ought, after every Preparation and Mixture, to examine their new Products by their Tastes and Smells; and from thence, and the Tastes or Smells of the Ingredients, together with due reflections on the manner and nature of their Operations, to give their Rationale of the Vertues of their new Medicine. Whereas, at present, we have too much Hyperbole in the Descriptions of Chymical Medicines and their Vertues, and no Taste.

IX. *I shall affirm, That it is very necessary for the making of an Experiment on any Medicine; for before we try any thing in the Body of a Man, we ought to take the best Information our Senses can give us, about the Taste and Smell of it, by which we shall know the consistence of the Medicine, the Figures and Motions of its Particles, the quantity of its Dose, the Preparation of the Medicine, the agreement with other Medicines of the same Taste, the Tastes of its Chymical Principles, and their alteration by Mixtures, and its suitableness*

The PREFACE.

to the Digestion, Temper, Tastes, and Principles of some particular Humour of an Animal, which indicate peculiar Tastes for their Preservation in Health, or alteration in Sicknefs.

X. By the Tastes we shall more fully understand the Ancient Authors of our Faculty, as Galen, who quotes the number of Tastes out of Plato: Dioscorides mentions many Tastes of Plants; and Galen transcribed them from him. Hippocrates has grounded his Aphorisms on Tastes; And Galen uses them in his Methodus Medendi, and gives an account of some Medicines from them; so that it is impossible to understand either Hippocrates, Dioscorides, or Galen, without a full information about the Tastes of Plants.

Hippocrates gives us these general Rules about Tastes.

Ὅσα τῷ σώματι θερμώτερον, καὶ δεινότερα, ὑπάρχει μᾶλλον ἢ διαχωρῆσαι

All Hot, Acrid, and Fragrant Herbs, are more Diuretick than Purgative.

τὰ γλυκιά καὶ τὰ δεινὰ καὶ τὰ ἀλῶν καὶ τὰ πικρὰ καὶ τὰ αἰσχροῦ καὶ σαρκώδη, θερμαίνον πύονα.

Sweet, Acrid, Salt, Bitter, Austere (such are here meant as the Laurel-Bitter Astringents) and Fleshy Fruits (such as Oily Nuts) do Heat.

Ὅσα δὲ ἴσσι καὶ στυφρὰ καὶ αἰσχροῦ, σίσιμα.

All Acerb and Austere Plants are Binding.

Ὅσα λεπνὴ καὶ διαρρέει.

Acids extenuate, and are Diuretick.

The PREFACE.

These Instances from Hippocrates are sufficient to prove, That the Tasting of Medicines is no novel Design, nor thought unuseful by the best of Physicians in the purest Ages of Physick, when the knowledge of Medicines and Animal Humors was deduced from sensible Qualities.

XI. *By the Taste we may distinguish Plants into Classes, as I have done; and also remark some defect in the Classes of our Plant-Anatomists; and also observe the difference of the Specifick Juices in Plants, and the difference also of their Vessels, in which the different Tastes are lodged.*

I. In Vegetables,

1. *We taste the Woody part, and that may be called a ligneous, dry, hard Taste.*

2. *The Juices of Vegetables which taste humid, and these are either the Watry Juices, which lye in the Bladders of Plants, or else the Juices of Plants, which are well digested, and I call them the Oyly Specifick proper Juices, lodged in the Turpentine Vessels of Plants.*

If we describe both the Watry and Oyly Juices of Plants, we may easily discern the Vertues of the Medicines. The Smell very much conduces to the discovery of the particular degree of Digestion, which each Specifick Juice of Vegetables has, by the Effluvia they emit.

Galen

The PREFACE.

Galen advises us to Taste each particular part of a Plant; for in the Root is not the most crude Juice of a Plant, as is vulgarly believed: He says, The Leaves are less Acrid in Aron, Dragons, Squills than the Roots; and that Althæa-Roots discuss Tumors, by a latent Acrimony which the Leaves do not; and Garlick, Onion, and Radish-Roots are most Acrid.

We must taste Vegetables in the Soyl in which they naturally grow in their perfect state; some best while fresh, but others dried, juiced, or in decoction; and observe, not to Taste many at one time: Some Plants are best smelt when bruised or rubbed; but if they be very Odoriferous, I only draw them through my Hand.

I believe that all the Criticisms about the Tastes of Vegetables cannot be settled in the space of half an Age; therefore I hope for Pardon where I have erred or omitted some Modes; and beg the Assistance of all my Profession in this useful design; for this design must be undertaken by Physicians, and not Herbalists, who cannot judge truly of the Vertues, without the assistance of our Art, and the knowledge of the Humors of our Bodies.

II. In Animals we taste,

1. The toughness or tenderness of the Muscular Fibres and Viscera.

2. The Seroſe Juice, (which is the Bloody Gravy) with an Animal savour of Fetid; and also a Smell resembling the same Taste: So in Rabbits Flesh we taste and smell a strong Rankness. In

The PREFACE.

In the hard Parts of Animals we smell a Fætor, as in Horns and Hoofs, from whence they have their Virtue, (and this Fætor differs not from the Spirits of Animals, which being collected in the liquor of the Nervous, it becomes lucid); hence it is that Fetid Sulphurs, Animals and Vegetables are Nervines; being strong or fetid, like the Spirits.

I will here only give a Scheme of Animal Humors, that the Taster may observe what is to be Tasted in Animals.

Chyle is the first and original Humor prepared in Animals.

From Chyle all the other Humors arise, either by Digestion or Percolation, mediately or immediately.

First, From Chyle is prepared,

I. By Digestion,

- 1. The Serum of the Blood, and from thence the Fibrous Cake or Part.*

II. By Percolation from Chyle.

- 1. The Fat, which is the Butyrose part of Chyle.*
- 2. The Milky Lympha glandularum conglomeratarum, like Spittle, and the Pancreatick Juice, and that of the Stomach and Guts.*
- 3. The Semen, which is also Milky, Slimy, and Fetid.*
- 4. The Milk of the Breasts.*

From

The PREFACE.

From the Fat returning into the Veins is chiefly produced the red part of the Blood.

From the red part,

1. *Choler.*
2. *The Spirits of Animals.*

From the Serum of the Blood by Percolation,

1. *The Sweat.*
2. *The Urine.*
3. *The Lympha serosa Glandularum conglomeratarum, which is observed in the Lymphaticks.*

All these I have more fully described in the ensuing Book, together with the original of Saltiness, and Acidity in Animal Humors.

The Taste of Insects is also to be observed, for in Millepedes is an Acrid Taste; in Chermes a Bitter Astringency, like the Ilex on which they are bred: So that it is probable that Insects taste of the Plants on which they are bred, each Plant having its particular Insects and Galls; and I believe the Acid in Pismires is from some Vegetable on which they feed. And I must here remark, that Insects have their Acrid, and also the Choler of Animals, which is pungent, both like the Acrimony of Vegetables, and not of a Salt-Taste.

The PREFACE.

III. In Minerals we must observe,

1. *The dry gritt in Stones and Metals, and their Calces.*

2. *The saltness in Mineral Salts of divers kinds, and in the Salt of Lime.*

3. *An Acidity in the Acid Spirits and Sulphurs.*

4. *A Vitriolick Astringent Taste in all the Vitriols of Minerals and some Earths, as Bole, &c.*

5. *A sweetness in Sugar of Lead and other Vitriols.*

6. *A bitterness in Nitre, and North-hall-Waters, and the Crystals of Silver.*

7. *A burning Corrosive Acid in Arsenick and Calx viva Tastes, burning with a Saltness, from whence the Corrosiveness depends.*

By the Smell we observe the Sulphurs of Minerals, and some Authors mention the Odoriferous Smells of the Preparations of Antimony, as Ettmuller; and in Bonetus we find this Arcanum Vitrioli nocte interpesta instar Carbunculi lucet, cujusq; odor omnia alia odorifera antecellit. *Tilingius.*

The different Pungency of the Sulphur-Smells must be observed; but these are sometimes so lockt up by the preparation and addition of Acids, as not in that state to give a manifest Taste; but by being in the Stomach, the Acid is taken off, and the Sulphur becomes Pungent, Vomitive, or Diaphoretick; therefore in judging of some Antimonial Preparations we consider the Taste and Smell during the Preparation; and when we find a Sulphur evident in that, we must allow that some of
it

The PREFACE.

it sticks to the Calces; and from thence we must deduce part of the Vertue of the Mineral Calces: So the Oyls of Plants are not perfectly separated from the Fixt Salts, from whence they have their different Vertues.

If we reflect on the Actions of our other Senses, they may be imposed on as well as our Tastes, and not discern that object in one state which they did in another: so we both See and Feel Salts and Sugar when dry; but if they be dissolved in Water we shall only perceive them by our Tastes; therefore we use the testimony of all our other Senses to supply the defect in any one.

We may rationally infer from the sulphureous Smells in the Preparation, as well as the effects in the Stomach, that Sulphur abounds in Antimonial Vomitories; and it is enough, that both Taste and Smell can discern the Antimonial Sulphur (which is not unlike common Sulphur) in more loose Preparations, wherein it is more separated from the Earthy Particles, (as in Sulphur Antimonii combustibile, the Clyffus and Tinctures.)

Vegetables and Animals are the most proper objects of Taste; but most of the Mineral Sulphurs are better Smelt than Tasted: and in the judging of our Medicines we must consult both Taste and Smell.

*It is necessary to prepare some Bodies that they may give their Smells; so Pearls and other pretious Stones must be long ground in a Mortar before they will give their fragrant smells; which, by D. Olaus Borrichius is observed to be like Violets; he mentions o-
ther*

The PREFACE.

ther Stones struck with a Hammer smelling like Musk, others like burnt Harts, or the Excrements of Animals: And our Flints and common Stones smell like Sulphur, being struck against one another.

These varieties of Smells in Stones sufficiently evidence, that their Vertues are no occult qualities.

I must confess that some Medicines acquire new Vertues in the Stomach, from the Animal Acid; so Boles are made Aluminous, Salts Vitriolated, and the Testaceous Medicines made Salt and Styptick by it. therefore we must allow those the same Vertues, as if they had been prepared by an Acid, and thence deduce them.

Mercury and other Minerals acquire a Vitriolick Taste in the Body, as they do by Preparation with Acids; without this alteration Mercury crude can have no considerable Vertue, as other Minerals have not, I have tryed Mercury decoctions in Water, and put Worms into it, but found it not to kill them; whence I may justly doubt of its Vertue.

Half an Ounce of crude Mercury injected into the Veins, made no alteration in a Dogg, neither by Vomiting, Purging, or Salivation. Bonetus.

Two or three pounds of crude Mercury are given sometimes inwardly, and pass through the Guts, without Injury. These Instances suffice to shew the small Vertue as well as Taste of crude Mercury; but the Fumes of Mercury taste sweet, as the Gilders inform me: And Doleus mentions the Stypticity of the Fumes of Mercury in the Throat.

During

The PREFACE.

During the long neglect of the Press in publishing this second Volume, I added the Appendix, which contains a more exact Method, being a Scheme both of Minerals and Animals, according to their Tastes; and many particular Tastes were added, which were omitted in the other Parts.

Many Errata's have been committed; for the Correcting whereof, I have affixed the Errata's observed by my self, and desire the Reader to consult them.

Errata

Errata in Vol. I.

PRef. p. 6. l. 8. r. Ray's Methodus. 57. for *Daffadils*, r. *Pseudonarcissus*. p. 276. l. 4. *Acid*. 282. l. ult. dele of both. 292. l. 23. *Sulphur*, an *Oyl* and *Acid* is closely lockt up. 293. l. 7. both. *The*. 296. l. 6. new. 303. l. 10. an *Efflorescence*. 310. l. 7. so neither is it in.

Errata in Vol. II.

PAg. 4. l. 20. & 125. l. 1. *Acid*. 17. l. 18. *Volatility*, it. 24. l. 9. *Lapis bufon*. p. 41. l. 1. *Nitre inflammable*. *Spirit*. p. 58. l. 14. *Sponge distilled*. 124. l. 5. *Aloes is Bitter*. l. 6. dele *Aloes*. 161. l. 10. *Sweet Acid*. 166. l. 15. set *Mastiehe* close to *Olibanum*. 171. l. 3. *S*. 1. *Hot Cephalicks*. 176. l. 13. after *juglandium* add *Facula bryoniae*, *pulvis de gutteta*, which dele in l. 20. 190. l. 19. for *Corallina* r. *Carlina*. 193. l. 16. dele *nummularia*. 195. set *pulv. Cornachin*. close to *Scammonii*. 205. l. 3. dele 6. *Bitter-Acrids*. 239. l. 25. *Animal-bitten*. 281. l. 12. *Plants Anato*. 294. l. 27. and *sub-acid*. 301. *Fraxinus bubula* is omitted before this. 304. l. 21. *has an*. 316. l. 21. *Ballatis* r. *Battatos*. 317. *Opium* r. *Apium*. 343. l. 2. or *without*. 349. l. 24. of a *Perch*. 352. l. 21. *These*. 353. l. 27. conglomerated. 354. l. 20. r. *Coloni*. 362. l. 13. *red*; l. ult. it unites readily. 369. l. 10. the *Acrid*. 373. l. 1. *Spleen-Acid*. 378. l. 10. *Aluminous*. 384. l. 23. r. *wiped*. 390. l. 2. *Pent-Turfs*. 394. l. 10. r. are not *Nitre*.

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:

OR, THE
Touch-stone of Medicines, &c.

The Second Volume.

OF THE
Tastes and Vertues
OF
MINERALS.

An Appen-
dix to the
Third Part
of VOL. I.
Of Vegeta-
bles, &c.

CHAP. I.

*Of the Principles of Vege-
tables, which are deduci-
ble from Minerals.*

AS the best of *Physicians* (speaking
of *Man*, the Principal of the
Animal Kingdom) says, *We are
that very Thing by which we are
nourished*; so, without a Paradox, every
Vegetable may be said to be a *Mineral*,

as being nourished by something *Mineral*: And a Treatise of *Minerals* may very aptly be joyn'd to One of *Vegetables*, without any Fault in Coherence, or Absurdity in Method. For *Vegetables* receive their *Earth*, *Oyl*, and *Acid* from *Minerals*. And I must further observe, That the Soyl from which *Vegetables* receive their immediate Juyce, is a Congeries of *Mineral Bodies*, viz. *Sand*, which looks like *Gems*, in a *Microscope*; *Clay*, *Marle*, *Chalk*, *Flints*, *Lime-stone*, and divers other sorts of *Earths*, in Distillation, yielding an *Acid Spirit*; which is the Product of some *Sulphur* in them: And the same *Sulphur* gives an Oyly Fatness to many *Earths*, as *Marle*, *Clay*, *Bole*, &c. It is observ'd, that *Salt-Petre* abounds in all Fertile *Earths*, and has a *Mineral-Acid* in it: So that, if it any ways conduce to the Production of *Plants*, it must be allowed, that in the Production, *Vegetables* receive some *Acid* from it. *Sulphureous Damps* are most evident in some particular Places arising from the *Superficies* of the *Earth*; and *Boggy Grounds* have always an offensive *Air*, which is not vitiated by the *Water* only, but also by some *Sulphureous Effluvioms*; which, upon standing *Water*, shoot into a bluish Cream,
like

like that on standing *Vitriolate Waters*.

I cannot but mention those *Bodies* which have a middle State betwixt *Minerals* and *Vegetables*; from whence I infer a great Analogy betwixt their *Principles*, and a gradual Transmutation of *Mineral Principles* into *Vegetable Oyls*, *Acids*, and *Earths*: (*Water* is a common Vehicle, necessary for the Mixture of those *Principles* in both *Kingdoms*, and it may be, the *Earthy Part* is the same in both.) *Vegetables* are changed towards *Minerals* sometimes.

Coral grows as a *Plant*; and afterwards has the Hardness of a *Stone*, when full grown: to which the *Astringent Liquor*, observ'd in it, conduces; for from a drop of it, new *Coral* is said to spring.

So in other *Vegetables*, some *Seed-Cases* become *Stony*, which lie in the middle of an *Acid Pulp*; as in *Cherries*, *Plumbs*, &c.

Gromwel-Seed is *Stony*, though it have no exterior *Acid Pulp*; and the *Seeds* of *Apples* and *Lemons*, which have an exterior *Acid Pulp*, are not *Stony*. *Pears* have a *Stonyness* in them. *Petrification* in *Vegetables* depends on an *Acerb Juice*, in which the *Acid* and *Earth* are mixt in a certain Proportion; for all *Acids* will

not produce it, for want of the due Proportion of *Earth* to them, and of that particular Texture of both, which is necessary for *Stones*. So that, when *Coral*, and the Cases of *Fruits*, become *Stones*, there is no Change of the Principles; but the *Vegetable Acid* and *Earth* acquire a new Texture.

The *Bitumens* in the *Mineral Kingdom*, are in a middle State betwixt *Minerals* and *Vegetables*: They are produc'd from *Mineral* Principles, otherwise mixt than in *Minerals*, and in a near Disposition to become *Vegetable*: For the *Bitumens* in *Minerals*, and *Turpentine* in *Vegetables*, are very like in Smell and Taste; and yield the same *Chymical* Principles in Distillation.

The Soot of *Coal* is of a smoaky Smell, and tastes Bitter and Acrid; in which it is like to the Soot of *Wood*; and also both of them yield the same *Volatile Salt* and *Oyl*.

The *Narcotick* Quality of *Sulphur Anodyn. Vitrioli*, resembles the Fetid *Narcoticks* in *Vegetables*.

The Ashes of *Minerals* and *Plants* may be Vitrified alike by a strong *Fire*; and therefore there is no great Difference betwixt them.

The

The *Fixt Salts* of *Plants* have the Nature of *Mineral Salts*; as appears in *Lime-Water*, which tastes *salt*; and both are the Product of *Fire*: for neither *Minerals* nor *Vegetables* have any Natural *Fixt Salt*. It is not improbable, that these *Fixt Salts* of both Kingdoms, agree in the Figure of their *Crystals*; and both may be Cubical, as *Common Salt*; or of some Irregular Figure, near to a Cube.

The Reason why all *Minerals* cannot be calcin'd into *Salts*, as *Plants* be, is the indissoluble Texture of their Parts; which not being perfectly destroyed by the *Fire*, they cannot thereby acquire New Mixtures, as it happens in *Plants* for the Production of *Fixt Salts*. But this Dissolution of Principles, and Re-mixture, happens in *Lime*, in the Production of the *Fixt Salt*, evident in *Lime-Water*.

I have mention'd the most known Bodies, which have their Rise from *Minerals*, and afterwards become *Vegetables*, as *Bitumen*; and those which from *Vegetables* become *Minerals*, as *Coral*, and the Stones of *Fruits*: And I might here add the Petrification of *Vegetables*, by petrifying *Waters*, which contain a *Nitrum Calcarium*, (as the ingenious Dr. *Lifter*

has evidently prov'd) by which *Plants* are petrified, having the Nitrous *Lime-Stone* Particles closely united with their Earthy Parts. I shall have a further Occasion of comparing the *Nitrum Calcarium* with the *Tartarous Earth* in *Plants*, by both which *Plants* are petrified; by the last, Naturally; and by the former, Artificially and Externally.

Minerals are produc'd out of Juyces, like *Vegetables*; which sometimes grow into Figures resembling perfect *Plants*, and have Branches and Joynts like them, as if they had been petrified *Plants*; but are really Natural *Stones*. From this Likeness of *Stones* and *Plants*, it is not improbable, that there is a great Similitude in *Principles*, and a propensity to change from one to the other. In the Discourse about *Fermentation*, I have more fully compared the *Oyls* and *Acids* of *Minerals* with *Vegetables*. Vide.

C H A P. II.

*Of the Similitude betwixt
Mineral Principles, and
those of Vegetables.*

THE Principles of *Minerals* are of the same Kind and Number, as those of *Vegetables*.

Water is distilled from *Salts* and *Mineral Earths*; and is necessary for the mixing of the other Principles: Therefore *Liquors* are found in *Mineral Stones*; and *Stones* had at first a Liquid Form. *Water* is the same in all Bodies; but, if extracted by Distillation, it retains some *Tincture* from that particular Body from whence it is distill'd.

I.

An Oily Principle is manifest in *Sulphureous Bodies*, as *Antimony*, which may be reduc'd into a *Butyrose* Form by Distillation: And all the *Mineral Sulphurs* may be easily extracted by *Oyl of Turpentine*, with which they readily mix, because of the Similitude of *Oleous* Parts.

II.

The *Oylinefs* of *Mineral Sulphurs* is more evident in the Distillation of *Coal*, which yields a black Oyl, Fetid, like *Harts-horn*, and as black and smoaky.

The *Bitumens* which have the Nature of *Turpentine*, do most clearly convince us of the *Oylinefs* of *Mineral Sulphurs*: So that I need add no more, to prove this Principle of *Minerals*.

The Third Principle of *Minerals* is an *Acid*; which is acknowledg'd by all, being evident in the Distillation of *Sulphur*, and the *Clyffus* of *Antimony*. This *Acid* adheres to the Oily *Sulphur* in *Minerals*, and locks it up, thereby making it appear in a dry Form; and therefore this may be compar'd to the *Tartar* in *Vegetables*, which has always some Oyl in it.

By means of this *Acid*, the Oily *Sulphur*, and the *Earthy* Parts are readily united in *Mineral* Bodies; and therefore This is that the *Chymists* call the *Mercury* of *Minerals*, when they distinguish it from *Mercurius Corporum*, and common *Quick-Silver*.

The Fourth Principle of *Minerals* is an *Earthy* Part; which in perfect *Minerals*,

nerals, is a *Lime-Stone* or *Spar*, which adheres to the *Ore* of *Metals*. The *Mineral Fumes* coming from the lower Parts of the *Earth*, fix in such *Stones*, and are intimately united with them into the Nature of a *Metal*: These *Mineral Fumes* are *Sulphureous* and *Acid*, which readily fix and combine with *Earthy* Parts; which the *Chymists* call the *Alkaly* of *Minerals*.

From the number of Principles, I have excluded both *Volatile* and *Fixt Salts*, they being the Products of other Principles combin'd by *Nature* or *Art*.

The *Volatile Salts* in *Vegetables* being evident to our *Senses*, and produc'd naturally, I did, in the *First Part*, call them one of the Principles evident to our *Senses*; but because they are compounded of the other Principles, I cannot think they deserve the name of a Principle.

From the different Proportions, and perfect Mixture of all the former Principles, all the perfect *Metals* are produc'd; and from a different imperfect Mixture, all other *Minerals* arise; as *Earths*, *Bitumens*, Regular and Irregular *Stones*, *Gems*, *Salts*, *Vitriols*, &c.

In

The *Oylinefs* of *Mineral Sulphurs* is more evident in the Distillation of *Coal*, which yields a black *Oyl*, Fetid, like *Harts-horn*, and as black and smoaky.

The *Bitumens* which have the Nature of *Turpentine*, do most clearly convince us of the *Oylinefs* of *Mineral Sulphurs*: So that I need add no more, to prove this Principle of *Minerals*.

The Third Principle of *Minerals* is an *Acid*; which is acknowledg'd by all, being evident in the Distillation of *Sulphur*, and the *Clyffus* of *Antimony*. This *Acid* adheres to the *Oily Sulphur* in *Minerals*, and locks it up, thereby making it appear in a dry Form; and therefore this may be compar'd to the *Tartar* in *Vegetables*, which has always some *Oyl* in it.

By means of this *Acid*, the *Oily Sulphur*, and the *Earthy* Parts are readily united in *Mineral* Bodies; and therefore This is that the *Chymists* call the *Mercury of Minerals*, when they distinguish it from *Mercurius Corporum*, and common *Quick-Silver*.

The Fourth Principle of *Minerals* is an *Earthy* Part; which in perfect *Minerals*,

nerals, is a *Lime-Stone* or *Spar*, which adheres to the *Ore* of *Metals*. The *Mineral Fumes* coming from the lower Parts of the *Earth*, fix in such *Stones*, and are intimately united with them into the Nature of a *Metal*: These *Mineral Fumes* are *Sulphureous* and *Acid*, which readily fix and combine with *Earthy* Parts; which the *Chymists* call the *Alkaly* of *Minerals*.

From the number of Principles, I have excluded both *Volatile* and *Fixt Salts*, they being the Products of other Principles combin'd by *Nature* or *Art*.

The *Volatile Salts* in *Vegetables* being evident to our *Senses*, and produc'd naturally, I did, in the *First Part*, call them one of the Principles evident to our *Senses*; but because they are compounded of the other Principles, I cannot think they deserve the name of a Principle.

From the different Proportions, and perfect Mixture of all the former Principles, all the perfect *Metals* are produc'd; and from a different imperfect Mixture, all other *Minerals* arise; as *Earths*, *Bitumens*, Regular and Irregular *Stones*, *Gems*, *Salts*, *Vitriols*, &c.

In

In *Vegetables*, *Trees* have a Mixture of the Principles analogous to *Metals*; which their Solidity, Weight, and Aptness to be petrified sooner than *Herbs*, sufficiently manifests.

The Texture of *Gums*, *Resins*, *Turpentine*, *Mucilages*, and *Stones of Fruits*, agrees with the imperfect *Minerals* above-mention'd; as will appear by a particular Analogy observ'd betwixt the Products of both *Kingdoms*, which differ only by their several Digestions and Mixtures: but yet manifestly agree, as the *Chymists* speak, *in radice*; that is, in their Principles.

CHAP. III.

Of the Principles, Tastes, and Vertues of Metals, and their Preparation.

Aurum.

GOLD has the *Sulphur* and *Acid* most digested, and intimately mixt with some *Stony-Earth*, like *Flint* or *Spar*; such as visibly adheres to *Gold-Ore*. In this the *Sulphur-Fumes*, which
are

are *Sub-acid*, intimately fix themselves with that *Stone* which is fittest for a strict Union with them. Some *Stones* are not moved by *Acids*, and others very violently: And hence does happen so small a quantity of *Gold*, and other *Metals*, in a great quantity of *Ore*.

Fire cannot diminish the Weight, nor separate the Principles of *Gold*, because of their perfect Union.

Gold will not rust, nor colour the *Fingers*, unless mixt with other *Metals*; and then the *Rust* is Blue.

The Vapor of *Sulphur* colours it; and therefore *Tartar*, *Salt*, and warm *Water* cleanse it.

Aqua Regia dissolves it, which is compounded of *Salt* and *Nitre*; whose *Spirits* have the greatest Pungency of any *Acids*, and the least Roughness and Sowreness; and also a strong Pungent Smell. By the united Pungency of both *Spirits*, the Body of *Gold* is broken or corroded into small Parts; which, joyning with the *Menstruum*, produces a *Vitriol*; by the Precipitation of which, *Aurum Fulminans* is prepared: which therefore Purges and Vomits, and gives Blackness of *Stools*, as other *Vitriols* do.

The

The *Tincture* and *Flowres* are said to have some *Sulphur* in them; at least, they may have somewhat of a *Vitriol*; which being alter'd by Addition of *Salts*, does not Purge, but sometimes Vomit: And they have the Effects like *Tincture* of *Steel*, in Curing *Acids*; which is also the Vertue of *Crocus Solis*; which in the quantity of a few Grains, may correct a considerable quantity of *Acid*; since one Grain of *Gold* may be extended into above Fifty Inches square in *Leaf-Gold*.

Gold may be best compar'd to *Aromatick* Trees; which have an Oily Salt of the same Cordial Vertue, that *Chymists* allot to the pure *Sulphur* of *Gold*; of which *Gold* has more than other perfect *Minerals*. So these *Aromatick* Trees agree with *Gold* in their Principles, by having more Oyl, and that better digested than other Trees.

Argentum. *Silver* has the Sulphureous *Acid* in smaller quantity than *Gold*; and that not so highly digested, as in *Gold*, yet so closely united, that the Principles can neither be separated by *Fire*, nor *Spirit of Nitre*, which only breaks the *Silver* into small Particles, and therewith constitutes a
Bitter-

Bitter-Acid Vitriol, Purging and Vomiting violently.

The Blue Colour of the *Tincture of Silver*, is from *Copper*, and vomits; but the true *Tincture* is Purple, (as *Ettmuller* affirms;) and it has some considerable Virtue, as containing the Sulphureous parts of its *Vitriol*, or rather of the *Acid Menstruum*, which made the *Vitriol*.

The *Crystals of Silver* are very Caustick; the *Acid* becoming more Corrosive, by being fixt in the *Mineral*.

Silver may be compared to those Plants which are Purging, abounding with *Earth*, *Acid*, and *Oyl*, united into an *Acrid Salt*; to which is joyned a *Bitter Taste*. Such is the Taste of *Hellebore*, and *Colocynthis*, which are *Bitter-Acid* Purgers.

Silver is easily mixt with *Copper*, and is scarce separable from it; to which its Purging Virtue is much attributed by many Authors.

Copper is called a crude *Silver*; for in *Cuprum*. this the *Sulphur* and *Acid* are not so strongly united to the Earthy parts, as in the former; but are easily dissolvable by *Volatile Salts*. *Spirit of Sal-Ammoniack*, dissolves it into a *Green Tincture*; *Spirit of Sulphur* into a *Blue Vitriol*, which is the

the most purging of any Mineral *Vitriol*, because of its Sulphureous parts, easily separated, and making it Corrosive. *Copper* melted, smells most of *Brimstone*; and a Preparation of *Copper* is made by Mr. *Boyle*, which is inflammable.

The *Acrid* Purgative *Resins* of Plants may be best compared to *Copper* for their equal Purging Faculty, and their most remarkable Principles, *Oyls* and *Acid*, which in Plants produce a *Salt*; and also in some Preparations of *Copper*, which *Becher* mentions.

Copper has an *Acid Sulphur* in it, which makes it easily extracted by *Spirit of Sal-Ammoniack*; and *Copper* is easily turned into a *Vitriol*, which will vomit by Stimulation of the *Membranes*, as *Aqua Fortis* does. From the Nauseous *Brass-savour Taste*, the Purging and Vomiting quality proceeds.

Stannum.

Tinn has much *Sulphur* in it, whence Jovial Medicines have a *Purple Colour*.

It will not so easily dissolve by *Acids* as *Lead*, and therefore not so much used for Medicine; neither have I observed its Taste, nor any Virtue proper to it.

It is easily melted, and it burns with *Nitre*; both which argue a Sulphureous Nature in it.

Lead

Lead is something of the Nature of *Plumbum*.
Silver, for *Silver* is mixt in all *Lead*.
Tinn differs from *Lead*, by having more
Sulphur.

Lead-Fumes give *Colicks*, *Palsies*, and
Shortness of Breath, to the Miners. They
say, The Smoak of melting *Lead* smells
Sweet. The Preparations of *Lead* do
outwardly cool, because of its Density
and Weight. It has the least Internal A-
gitation of any Metal, and will vitrifie.

Red-Lead is Calcined *Lead* to a *Red Minium*.
Colour, very Cooling and Drying in
Ulcers.

White-Lead is Prepared by the Fumes *Cerussa*.
of *Vinegar*, by which it is made *White*,
and the Cooling quality increased by the
Vinegar.

Burnt-Lead turns *Black* by the Fumes *Plumbum*
of *Sulphur*; and some *Salt* is produced by ustum.
it, which makes it drying.

All these Preparations may be reduced
into *Lead* again; so that it cannot be re-
duced into its Principles, no more than
Silver, *Gold*, or *Tinn*.

Lead may be compared to the Austere
Plants, which cool much, and have little
Oyl,

Oyl, but much *Acid* and *Earth*. So *Lead* has little *Sulphur*, but much *Acid* and *Earth*.

Ferrum. *Iron* abounds with *Sulphur*, and gives *Fetid Fumes* in melting. The *Sulphur* is extracted by *Volatile Salts*, where it is turned into *Steel* by *Horns*, with which it is *Calcined*; but because of that *Sulphur*, *Iron* is preferable to *Steel*: for by that *Sulphur*, and the *Earthy* parts, *Iron* cures the *Animal Acids*, and thereby removes *Obstructions*.

Sal Martis. *Salt of Iron* is made by the *Acid* of *Vitriol*, dissolving the *Iron*. It tastes Sweet and Rough; the Roughness is from the *Mineral* mixt with the *Acid*, as *Astringency* is produced in *Plants*; the Sweetness is from the *Sulphur* and the *Acid Menstruum*, as the *Oyl* and an *Acid* produce Sweetness in *Plants*. This *Salt* may be precipitated into a *Crocus Martis*, and that melted into *Iron*; and therefore this *Salt* is no Principle of *Iron*, but a Composition betwixt an *Acid*, and the Particles of *Iron*; and it will absorb *Acids*, and also acts as a *Salt* by its Figure; and by its Roughness, cooling the *Blood*, and stopping all *Fluxes* in the same manner,
as

as the Sweet Astringent *Ferns* do; and both of them are accounted *Splenetic*.

The *Tincture of Steel* tastes *Vitriolick* Sweet; as also the Preparation with *Tartar* and *Sulphur*.

Ens Veneris smells like *Spirit of Salt*, and tastes *Rough*, and not Sweet like *Iron*, but is a Composition of *Iron* and *Salt*; it has not any Taste of *Copper*.

The *Loadstone* hath the nature of *Iron*; and so hath *Smiris*, which is used for Polishing *Gems*.

Iron may be compared to the Fetid Plants, by its *Sulphur-Smell*, and also by its *Uterine Vertue*.

Common Quicksilver is very fluid, from *Mercurius*: the roundness of its parts, by reason of its Volatility. It contains *Sulphur* in it; for it is usually found in *Gold* and *Silver Mines*, mixt with *Sulphur*, in the form of *Cinnabar*; from whence it is distilled.

We observe the Acidity of *Quicksilver*; in corroding the Teeth and *Iron*, and by its Salivation. And we prepare it with more *Acids*, to make it salivate in a smaller quantity.

Quicksilver seems to be a fluid *Amalgama* of some Metal, and looks like melted *Lead*. The *Chymists* seem most confident

fident of their Extraction of *Quicksilver* out of *Lead*; and *Quicksilver* is easily mixt with it, and fixt by it, and equals its great Weight; and both soften the Metal they are mixt with.

Quicksilver seems compounded of a Metallick *Sulphur*, *Acid*, and *Lead*. The *Sulphur* contained in *Quicksilver*, seems Arsenical, because *Quicksilver* is found in *Silver Mines*, in which *Arsenick* is found also. *Arsenick* colours other Metals *White*, as well as *Quicksilver*; both of them are very Corrosive, and of a *White* Colour, and easily sublimed.

It may be observed in *Minerals*, and other Bodies, That Nature often decomposes a *Mineral* with one of its Principles, or two. So *Vitriols* are compounded of *Acid*, and a perfect Metal. *Sulphur* and *Mineral Stones* in *Marshafites*. And sometimes two Compounds are re-compounded, as in *Cinnabar*, which contains *Quicksilver* and *Sulphur*.

Quicksilver easily coagulates by *Acids*, (as *Lead* is dissolved by them,) by reason of its *Sulphur* and *Earth*; but these cannot destroy it, but it revives again.

All Metals by their *Sulphur* fix it, *Spittle* by its *Subacid*, *Salt* kills it; and so *Turpentine* and *Oyle*, by their latent *Acid*, destroy its fluidity.

A Solution of Mercury Precipitated

By { Spirit of *Sal-Ammoniack*, is
 { *White*.
 { Oyl of *Tartar*, is *Red*.
 { *Lime-Water*, is *Yellow*.

Mercurial Medicines have the Nature of *Alkaly*; but in Preparations are disguised by *Acids*, and by them made very Noxious and Corrosive.

The *Mercurial* Particles, tho' without an *Acid*, if only by an *Unguent* or *Fume*, they pierce through the Pores of the Skin into the Blood, there they imbibe the *Acid Salts*, and from their Mixture act like *Sublimate*, coagulating the *Serum* of the *Blood*, and by that means produce Salivation; the thin parts of the coagulate *Serum* running off by the Glandules of the *Mouth*. The *Ammoniack Salt* of *Animals* may dispose the *Mercurial* Particles into Corrosive pointed *Figures*, as the *Acid* of *Common Salt* does in the Preparation of *Sublimate*.

Sublimate has the *Acid* of *Spirit of Mercurius Salt*, joyned with it by Sublimation; and Sublimation I believe something of a *Vitriol Taste* is thus produced by the Mixture; for *Sublimate*

has a *Brass-favour Taste*, which is very *Nauseous*; and also a *Roughness*, by which it coagulates the *Blood*, and outwardly repels strongly, and resists *Putrefaction* in *Gangrenes* and *Ulcers*.

Sublimate is a kind of *Vitriol*, produced by the *Acids* and *Mercury*: And by its *Brass-favour Taste*, purges and vomits violently.

Spirit of Vitriol, distilled from *Quick-silver*, tastes *Aluminous*.

Turbith Mineral is a *Mercurial Vitriol*, produced by *Oyl of Vitriol*; and Vomits violently, and also Salivates.

Mercurius Vitæ.

Mercurius Vitæ, after the use of it, a *Vitriolate Taste* is in the Mouth, like *Copper*; from whence its *Vomitive Vertue* arises from the *Quicksilver*, as well as *Antimony*.

Mercury is Precipitated from its Solution by *Lime-Water*, and is thereby rendered Sweet and Innoxious: Therefore *Fixt Salts* are good, when any Body is Poysoned by *Sublimate*.

White Precipitate Purges gently, as well as *Mercurius Dulcis*; both are of a mild *Vitriolick Nature*, having less *Acid* in them.

Red Precipitate is Corrosive, by the *Spirit of Nitre*, by which the *Quicksilver* is Vitriolated.

CHAP.

C H A P. IV.

Of Imperfect Mineral Principles, and their Tastes and Vertues.

THE *Principles* of *Minerals* appear most evidently in these following *Minerals*; in which one *Principle* appears more evidently than in others; and sometimes two *Principles* are Compounded, as in *Sulphur*; and sometimes the three *Principles* are very loosely mixt, as in *Antimony* and *Marcasites*; in others most closely united by *Fire*, as in *Salts*; and the last sort is a Composition of *Acid*, and a perfect *Mineral*, as in *Vitriols*.

Mineral Earths are Compounded of a *Terræ* Mineral greater quantity of *Earthy Parts*, Impregnated with Fumes from a particular *Mineral*; by which it obtains the Vertue of that *Mineral*, whose Fumes it receives, and becomes Astringent by the *Acid* of the *Sulphur* joyned to the *Earthy Parts*; and the Oily Part of the *Sulphur* gives it a Fat Oyliness, and also a strong *Earthy Smell*.

Fat *Earths*, are like the Mucilages of *Vegetables*, Cooling and also Astringent. *Vid. Bolus Armena, &c.*

Lapides
Pretiosi.

Gems have their Originals in *Mines*, and their Colour from *Minerals*.

The Green Colour of *Smaragdus* is from *Iron*.

Rubines, *Granates*, and *Hyacinths*, have their Colour from *Gold*.

The Blue of *Lapis Armenus* and *Lazuli*, is from *Copper*.

Topasius and *Chrysolithus* have their Yellowness from *Iron*.

Gems are at first in the form of Liquors, and then shoot into Plates, like *Salts*; and of divers Plates is made the *Gem*.

This is the Opinion of the Honourable Mr. Boyle.

This Salt which Compounds *Gems*, seems like to Cream of *Tartar* in *Vegetables*, which consists of *Acids* and *Earthy Parts*, tasting Gritty, and shooting into *Crytals*. So in *Minerals*, the *Sulphur Acid* joyns with a *Stony Grit*, and constitutes the *Nitrum Calcarium*; which, if Crytallized by it self, constitutes Transparent Stones; which may (during its Crytallization) receive the Fumes of some *Mineral*; or else the *Sulphur* in the
Acid

Acid appears, when the *Acid* is fixed on an *Earth*, and gives it a colour.

Such is the colour of *Red Precipitate*, from the *Red Sulphur* in *Nitre*. *Vid. Lapidēs pretiosi, Crystallus, &c.*

Common Stones have the same Principles as the former; and besides, a great deal of *Mineral Earth* or *Bole* with them; which hinder the regular shooting of the *Nitrum Calcarium*, and the Transparency; and from those Mixtures, *Stones* have their Colours. Lapides Communēs.

Lime, Marble, Alabaster, and Shells of Animals, have a great deal of *Earth* and *Acid*, and not much *Sulphur*: They are easily Calcined into *Salt*, by reason of their dissolvable Texture. So *Astringent, Mucilaginous* and *Bitter Plants* have much *Acid* and *Earth*, little *Oyl*, and yield much *Salt*.

But those *Stones* which have much *Sulphur*, and a close Texture, yield little *Salt*, like *Resins* in *Vegetables*; but by addition of *Salt*, these *Stones* are fusible into *Glass*; such is the Nature of *Osteocol-la* and *Flints*.

Those *Stones* which have an indissoluble Mixture of *Oyl, Acid, and Earth*, and probably an equal proportion, are ve-

ry easily fused, as Metals be; as in *Spar*, and *Mineral Stones*. *Lime-stone* cannot turn into *Glass*, because its *Sulphur* is separated by the *Fire*, and the *Acid* of the *Stone* joyns with some *Earthy Particles*, upon the wetting of the *Stone*; from whence the *Effervescence* in *Lime* proceeds.

Ætites is a *Flint*, and so is *Lapis Bubonius*; by which we may be assured no Vertues can be expected from them.

Vitriola.

Vitriols are made by *Metalline Bodies*, Compounded with a *Sulphureous Acid*.

From *Copper* a *Blue Vitriol*.

From *Iron* a *Green*.

From *Silver* a *White*.

From *Lead* a *White Sugar of Lead*.

From *Mercury* an *Aluminous Brassy-savour'd Vitriol*.

Quære, The Colour and Taste of the *Vitriols* of *Tinn* and *Gold*?

Pyrites.

A *Fire Stone* or *Marcasite*: It consists of a *Stone*, *Mineral Ocher*, and *Sulphureous Acid*. Out of the *Marcasite* both *Vitriol* and *Sulphur* may be made.

There are as many *Marcasites*, as sorts of

of Metals; These they add to the Metals, to make them more fusible; which *Spar*, and all other *Sulphureous Stones* do.

The *Fire-stone* which was sent to me from *Wedgebury*, was black on the outside, and Silver-coloured within: This I put into a Glas of Fair *Water*, which after a little time had a Vitriolate Taste, and the *Water* turned Purple with *Galls*; but, after a long standing, it turned Green again. From such sorts of *Stones*, *Chalybeat-Waters* receive their Imperfect *Vitriol*.

There appeared a Blue and Yellow Scum on the top of the *Water*, in which the *Fire-stone* was put; as there does in all *Chalybeat-Waters*, when they stand a while.

I burnt some Grey *Iron-stone*, with a *Sulphur-rol*e in a Crucible; some edges of it melted: I put that part of the *Iron-stone*, which looked black, and was not melted, into some Fair *Water*, with *Galls*; and thence arose a Purple Colour, and a *Sulphur* Scum. From whence I infer, That *Chalybeat-Waters* have their Vertue both from *Sulphur* and *Iron*.

The *Fetids* in *Vegetables* are of agreeable Principles and Vertues to *Marcasites*; being like the *Fetid Gums*, which are contained in *Plants*, and, like them, are used
out-

outwardly in Plasters; in which Powdered *Pyrites* is good for the *Sciatica*.

Sulphur
vivum.

Common Brimstone is a Compounded body of an Oily part, and an *Acid*; both which, in the Burning of *Brimstone*, strike the *Nose* with a Pungency, like *Volatile Salts*. Nothing is *Volatile* in *Minerals*, but *Sulphur*; and this gives the Volatility to *Quicksilver*; where I can compare nothing in *Minerals* to Pungent *Volatile Salts*, but *Sulphur-Fumes*, which in distillation of *Pit-Coal* compounds a *Volatile Salt*. And a *Volatile Salt* is made out of *Soot*, which is a compounded Body of *Oyl* and *Acid*, as *Brimstone* is.

I have tryed some Flowre of *Brimstone* gathered from the Fires in *Wedgebury Coal-Pit*, which differ not from Ordinary Flowres of *Brimstone*; for it burns Blue, and looks and smells like ordinary *Sulphur*, but something stronger, it being the *Sulphur* of *Coal*.

Common Brimstone, given inwardly with *Milk*, purges very conveniently in the *Piles*, and dryes them.

Vid. fl. Sulph. infra, & Sp. Sulph. per Campanam.

Vid. Antimony infra.

Arsenic

Arsenic is like common *Sulphur*, the *Arsenicum Soot* of Metals, and is compounded like it, of an Oily part (which in *Arsenic* is more piercing) and an *Acid*; and it is naturally joyned with a *Mineral*, from which it is separated by Sublimation.

The best *Orpiment* is of a yellow Colour, and smells strong of *Sulphur*; but by putting it into a Pot over the *Fire*, it becomes a *Sandaraca*.

Arsenic sublimes like *Sulphur*; and may be changed into a *Butter* by *Sublimate*, which shews its Oily part.

Arsenic given inwardly Vomits violently, corrodes the Stomach, causes Thirst, Heat, Faintings, Convulsions, and at last Death.

The *Sulphur* in *Arsenic* may be fixt by *Spirit of Nitre*; and *Salt of Tartar* alters its Corrosiveness, by imbibing its *Acid*; therefore the Corrosiveness depends not wholly on either *Acid* or *Sulphur*, but on a Proportion and Texture of both; which makes it a strong Caustick outwardly, for eating *Proud Flesh*.

Acids have pointed Figures, by which they are Pungent, and corrode; and when they are Compounded with *Sulphur*, they are Figured into pointed Particles; which,
by

by reason of the Activity of *Sulphur*, tear and corrode stronger, than when they are compounded with *Minerals* or *Earths*.

The Poysonous *Acrids* of *Napellus* and *Aconite*, and the Caustick *Milks* in *Vegetables*, may be compared with *Arsenic*, for its Poysoning quality, which is its Corrosiveness. The Principles of *Minerals* cannot so easily be united into *Volatile Salts* as *Vegetables* are; but the Oyl and *Acid* in *Sulphur* want only an *Earth* to give them the nature of a *Salt*; and they sometimes may acquire that Texture, as appears in the *Volatile Salt* of *Coal*. The high degree of *Acrimony* in *Mineral Sulphurs*, makes a Poyson; tho' a lower degree makes only a Purger, as appears in *Antimonial* Medicines, which have their *Stimulus* from the like Texture of *Sulphur* and *Acid*; and in many sorts of *Vitriols* which purge; especially in *Copper-Medicines*, in which is manifestly a *Sulphur*, and an *Acid*: and from the mixture of *Copper* or *Arsenic*, which is mixt with the *Mineral* of *Silver*, the Preparations of *Silver* purge so violently.

Common Sulphur is not corrosive, because there is too great a quantity of *Acid* mixt with the Oily part in it self; by which means the Oily part is less *Volatile*.

tile. In *Antimony* the *Acid* is less than in *Sulphur*; and therefore the *Sulphur Oyl* is more *Volatile*, and purges. In *Arsenic*, the *Acid* is in a lesser proportion, and more intimately mixt with each Particle of *Sulphur*; as it happens in the *Butter* of *Antimony*, from which the *Corrosion* proceeds: So that *Arsenic* is corrosive, not only by the Volatility of *Sulphur*, but also by the particular Mixture of each Particle of *Acid*, with a like Particle of *Sulphureous Oyl*; and therefore the *Butter* of *Arsenic* is extreamly Corrosive, in which the *Acid* is mixed with the *Oyl*; as in *Milk*, the *Butter* and *Acid* are united, and the *Acid* opens the *Sulphur*, and gives it the form of *Butter*.

The *Bitumens* of the *Earth*, arise from Bitumina. the *Sulphur* of *Minerals*, when it is Butyrose, or less Coagulate by the *Acid*. If then it be mixt with *Clay*, or *Bole*, or *Earth*, which is fat and soft, like a Mucilage; it produces a Composition like *Turpentine* in Taste, Smell, and Vertue: All *Turpentine*s having an *Oyl* and *Acid* in them, besides a *Mucilage* or *Gumminess*.

The *Mineral Bitumens* may be divided, as *Turpentine*s be, into;

I. *Fetid*

I

Fetid Bitumens, like *Resins*; as *Succinum*, which is a hardened *Petroleum*.

Asphaltus is as hard as *Pitch*. *Gagates* is like *Succinum*; both stink when burnt, and yield an *Oyl* and an *Acid Spirit*, like *Resins*.

Pit-Coal distilled in an Earthen Retort, yielded a *Volatile Smoaky Salt*; which made a great Effervescence with Spirit of *Nitre*, and tasted Pungent; and also a black *Oyl* Fetid, like *Oyl of Hartshorn*. I thought this a considerable Experiment, to prove, that a *Volatile Salt* and *Oyl* may be made from *Minerals*, as well as *Vegetables*; and confirmed my opinion about the Similitude of *Principles*. Other *Fetid Bitumens* are more Liquid, as *Naphtha* and other *Bitumens* Swimming on Water.

II.

There are *Bitumens* plainly like common *Turpentine*; as *Petroleum*, which distilled, yields an *Oyl* like *Oyl of Turpentine*; and a *Colophony* remains, which is a *Resin*.

The *Petroleum* swims on Waters, and gives them a Healing Vertue, like *Oyl of Turpentine*. *Petroleum* is either White or Red.

Oleum terræ is more Sweet and Fragrant than *Petroleum*.

Some

Some *Bitumens* are more Fragrant than the rest. III.

Ambra Grysea is a Greasie, Soft *Bitumen*, of a Fragrant Cordial Smell, found in the *Sea*: and it is not improbable, that the *Salt* of the *Sea* may render this *Bitumen* Fragrant, as the *Salts* of the *Blood* give *Turpentine* a Violet Smell.

From the Similitude of Taste, Smell, and Principles betwixt *Bitumens* and *Turpentine*s, I could not but infer the Production of the *Vegetable Turpentine* was from the supply of the *Mineral Bitumen*, which is dissolved, and swims on many Waters; and in the *Spring-time* may easily be rarefied, and the Fumes of it lodged in the Surface of the *Earth*, to give an *Oyl* fit for *Vegetables*. The *Acid* of *Vegetables* is from *Minerals*, and therefore the *Oyl* comes thence also; for the *Oyl* and *Acid* in both *Kingdoms* are usually associated, and go together, and produce the chief effects in both, constituting *Salts* and *Resins* in *Vegetables*, and *Sulphurs* in *Minerals*, &c.

The *Oyls* and *Resins* of *Vegetables* are Inflammable, as *Sulphur*. The *Anthracæ ex pino*, *Junipero* & *Musco terrestri Clavato*, are observed to be very Inflammable; but especially those of *Cluh-Mass*, which yield
an

an Oyl by Extraction, with *Tincture* of *Salt* of *Tartar*; and afterward by distillation, as it is mentioned in Mr. *Ray's* *History of Plants*. And the Learned *Wedelius* says, That the *Lixivium* of *Woad*, being Precipitated by an *Acid*, yields the same Sulphureous Smell, as appears in the Preparation of *Sulphur auratum Antimonii*; and a yellow *Sulphur* is Precipitated, which has the Smell, Colour, and Inflammability of *Sulphur*: Such is the Artificial *Sulphur* I will mention hereafter, made by Oyl of *Turpentine*, and Oyl of *Vitriol*.
Vid. Flores Sulph.

C H A P. V.

Of S A L T S.

Salts are either *Simple*, from one *Principle*; or *Compounded* of many.

- I. **T**HE *Acid* of *Sulphur* is the universal *Acid*, spread thro' *Minerals*, *Vegetables*, and *Animals*, in each Kingdom; varying only by the several *Mixtures*, *Compositions*, and *Decompositions*;

sitions which are mentioned hereafter : and there is no other *Simple Salt*, but the *Acid of Sulphur*.

Compounded Salts are either,

II.

First, *Artificial*, as,

1. *Volatile* and *Fixt Salts*, which are made by Distillation or Calcination. But the Composition, necessary to produce a *Volatile Salt*, is made *Naturally* in *Vegetables* : and the same is made *Artificially* out of *Vegetables*, by putrefying any *Vegetable*, and then distilling it.

Fixt and *Volatile Salts* may be termed *Simple Salts*, because they may be *Compounded* again by an *Acid* ; as,

2. In *Vitriolate Salts*, *Ammoniac Salts*, and *Nitrose Salts*.

Secondly, *Compounded Natural Salts* are either compounded,

1. Of an *Acid* and *Mineral* ; as *Vitriolate Salts*.

2. Of an *Acid* and *Earth* ; as *Alum*, *Nitre*, *Sal-gem*, and *Sea-Salt*.

3. Of two *Salts* ; as the *Ammoniac Salt* in *Animals*, evident in *Blood* and *Urine*.

D

4. Of

4. Of an Oyl and *Volatile Salt*; as in *Aromatick Vegetables*, and other *Acrids*. Or,

5. Of an Oyl and *Acid*; as in *Tartar*, and the *Sulphureous Acids* of *Minerals*.

Of all these Compositions, I will give divers Instances; but, first, I will collect out of Dr. *Grew's Anatomy of Plants*, what he observed about the proportion of *Fixt Salts*, in the different tastes of *Plants*; and give some reflections on them:

One pound of *Marjoram* affords a scruple of *Lixivial Salt*; which is an *Aromatick Plant*.

Of *Oak-Bark*, which is *Astringent*, one pound yields half a drachm.

Of *Liquorish*, which is *Sweet*, one pound yields half a drachm.

Of *Anniseeds*, which is *Sweet*, *Acrid*, and *Aromatick*, one pound yields two scruples.

Of *Sorrel*, which is *Sowre*, one pound yields a drachm.

Of *Garden Scurvy-Grass*, one pound yields two drachms and half a scruple.

Of *Sea Scurvy-Grass*, one pound yields nine drachms; which proportion is greater than in any other *Plant*, and more than in the *Garden Scurvy-Grass*.

Of

Of *Mint*, which is *Bitterish*, *Sub-acrid*, *Aromatick*, and *Astringent*, one pound yields five drachms and a scruple.

Of *Agrimony*, one pound yields five scruples, and fix grains of *Salt*; the Taste of it is *Bitterish*, *Astringent*, and *Sub-acrid*, with an *Aromatick* Smell.

Of *Mugwort*, which is *Bitter*, *Sub-acrid*, and of a mixt Smell, one pound yields two drachms and two scruples.

Of *Rosemary*, one pound yielded five scruples.

Of *Mallows*, which is a *Watry Mucilage*, one pound yields five drachms and two scruples.

Of *Resins* and *Turpentine Gums*, very little *Salt* is collected; as out of *Mastich*, *Olibanum*, and *Assa Fætida*.

Gum-Arabick yields a little *Salt*.

Euphorbium yields two scruples of *Salt*.

Myrrhe, the same quantity; which is strange, the one being very *Acrid*, and the other *Bitter*.

Opium yields near a scruple of *Salt*, and is *Bitterish*, *Fetid*, and very *Acrid*.

Aloes, which is *Sweet*, *Bitter*, *Gummy* and *Sub-acrid*, yields one scruple of *Salt*.

Scammony yields half a scruple of *Salt*, in two scruples of *Caput Mortuum*.

Gutta gamba, in one scruple of *Caput*.

Mortuum, has five grains of *Salt*.

Rhubarb yields very little *Salt*.

Jalap, one pound yields one drachm and fifteen grains of *Salt*. *Jalap* is Clammy or Gummy in Taste.

Senna, one pound yields four scruples and a half of *Salt*; the Taste is *Bitterish*, *Slimy*, and *Sub-acrid*.

Colocynthis, one pound, which is extremely *Bitter* and *Acrid*, yields one ounce; which is more than any *Plant* except *Sea Scurvy-Grass*.

Of *Ash-Bark*, one pound yields thirty two grains; this *Bark* is *Bitterish* and *Rough*. And *Bark* of *Black-Thorn* yields one scruple and five grains.

I have transcribed the Instances mentioned, to confirm my *Hypothesis*, about the Nature of *Salt*, That it is a composition of *Oyl*, *Acid*, and *Earth*, in different proportions in *Volatile* and *Fixt Salts*; in the latter of which, the *Fire* makes the Composition: And these *Plants*, which have a due proportion of *Oyl*, *Acid*, and *Earth*, yield the most *Fixt Salt*; therefore *Sea Scurvy-Grass* yields the most *Volatile* and *Fixed Salts*, and all other of the *Cress-Taste*; and also amongst *Gums*, *Euphorbium* and *Opium*.

Bitters

Bitters have less *Oyl*, and more fixt by the *Acid* and *Earth*; therefore *Mint*, *Agrimony*, *Mugwort*, and *Rosemary*, have less *Salt*, than the *Acrids* above-mention'd: But where there is an *Acrid* joyn'd with a strong *Bitter*, as in *Coloquintida*, those have more *Fixt Salts*, than pure *Bitters*.

Mucilaginous Plants, as *Mallows*, yield a Proportion not inferior to *Bitters*; because of a great Quantity of *Oyl*, *Acid*, and *Earth*: And these Principles in *Mucilages*, are not suddenly driven into *Smook*; but are united in the *Fire* into *Salt*.

Sweet, *Astringent*, and *Acid* Tastes yield least *Salt*, for want of a due Proportion of *Oyl* for its Composition: And *Watry Gums* have little *Salt*, for the same Reason.

Marjoram and *Aniseeds* have too little *Acid* for producing a *Fixt Salt*.

Resins want *Earths* for the Composition of *Salt*; and the *Oyl* and *Acid* burns away too soon.

The various Figures of *Salts*, *Marine* and *Essential*, (but I cannot allow it that Name, because it's made by the *Fire*) are described by Dr. Grew, and *Fracassatus* in his Epistle to *Malpighius*; of which

variety of Figures we cannot give any probable Reasons, but from the various Proportions of *Oyls*, *Acids*, and *Earths* in *Plants*; and the re-mixtures of them in the *Fire*, for the compounding of a *Fixt Salt*.

The change of a *Lixivial Salt* by the *Air*, is an undeniable Argument of the Composition; for it will turn from a *Salt Lixivial*, to *Nitrose* and *Marine Salt*; and, at the same time, precipitate an *Earth*.

The Separation of the *Oyl* from the *Acid* and *Earth*, gives this *Nitrose Salt* a Bitterness; but, after the Evaporation of that *Oyl*, the *Acid* and pure *Earth* remain, and make a *Marine Salt*: Which I think may be the clearest Solution of this great Experiment.

I find this Experiment in Dr. *Willis*, That *Volatile Salts*, though very white, turn into a red Liquor by being expos'd to the *Air*; and then taste not very salt, but smell smoaky, from the *Oyl* which is loosened from the mixture with the *Acid* and *Earth*.

Since therefore the *Fixt* and *Volatile Salts* may be resolv'd by the *Air* into *Oyls*, *Acid*, and *Earth*; I do conclude, That they are *Bodies* mixt in the *Fire* by Distillation

stillation, and Calcination only, which makes *Fixt Salts*.

But I cannot omit the Modes of Tastes in *Salts*; for from the *Acids*, which are pungent, the *Volatile Salts* have their Pungency; and from the *Volatility* of distill'd Oyls, the *Volatile Salts* have a *Volatility*, and smoaky Smell. The *Fixt Salts* have their Pungency from the *Acid*, and a *Lixivious* Smell from the Oyl; and from the *Earth*, both *Salts* have a dry Taste, very considerable in *Salts*. We find many *Alkalies* mixt with an *Acid*, as *Crabs-Eyes* and *Vinegar*, which taste Salt. So that, from many Experiments, and likewise from the Taste, I affirm, That *Salts* are Compounded Bodies.

C H A P. VI.

Of the Tastes of Salts.

A *LUM* is of a rough *Acid* Taste; *Alumen*. by which it coagulates *Milk*, *Serose* Humors, and *Choler*; and therefore it becomes a good *Febrifuge*, and stops all *Hemorrhages* from the *Kid-*

neys and *Womb*, by giving an *Astriction* to the *Fibres* of the *Membranes*, as well as by the *Coagulation* of *Humors*, and checking the *Fermentation*. Outwardly it cools, repels, and cicatrizes. In *Suppositories*, the *Acid* stimulates; and given inwardly, in a great quantity, it purges and vomits.

Out of a black calcin'd *Slate*, is made a *Lee*; of which is made *Alum*. The *Alum* is precipitated by a *Lixivium*, and *Urine*: So that *Alum* has a Composition of *Salts*, besides the *Acid* and *Earthy* Parts. The *Alum-Stone* in the *Air* produces a *Copperas*. *Alum* has not so much *Acid*, as *Vitriol*; and therefore is more Rough.

Nitrum.

Nitre is Cool, Bitterish, Pungent, and Saltish in Taste: It is Inflammable, and seems to be a *mixt Salt*, having a great *Acid*, by which it cools, and has the Effects of an *Acid*; but it will not curdle *Milk* or *Choler*, neither the *Blood*, nor *Serum*; but the *Spirit* of it will coagulate all these Liquors. The Bitterness argues some *Oily Sulphur* in it; and the Saltness, the mixture of some either *Volatile* or *Lixivious Salt* with it; and therefore it is *Diuretick*. *Spirit of Nitre* joyn'd
to

to an *Alkaly*, becomes a new *Nitre*. Inflammable *Spirit* of *Nitre* fixes *Volatile Salts* most; and is the strongest *Acid*, in dissolving *Minerals* and *Stones*; and therefore a great *Acid-Diuretick*.

Sweet Spirit of *Nitre* is made more *Sp. Nitri* grateful to the *Stomach* by the *Spirit* of *dulcis*. *Wine*; Spirituous *Acids* being more agreeable than fowre *Tastes*, or *Acid-rough*. The *Sweet Spirit* of *Nitre* is us'd in *Colicks*, *Windiness*, *Tympany*, and all hot *Inflammations*; the *Acid* of the *Nitre* coagulating with the hot *Volatile Oyls*, and *Salts* in *Animals*.

Spirit of *Nitre* distill'd from *Nitre* and *Lime*, turned the *Serum* of the *Blood* black, as in black *Vomits* and *Stools*.

Sal Prunellæ tastes Cool, Nitrous, Acid, *Sal Prunellæ* Saltish, and a little Sharp or Pungent; by which it cools *Thirst* and *Heat*, and is *Diuretick*. It will not Ferment by the addition of any *Acid*, nor curdle *Milk* or *Choler*.

Borax tastes Cool, like *Nitre*, and *Sal-Borax*. Saltish-pungent, having a *Fixt Salt* added to it, to purifie it: If it be *Factitious*, it is mixt of a *Volatile Salt* and *Nitre*. It is

is most us'd as a *Diuretick*; and for *Ulcers of the Mouth*, it seems not to be very *Aperitive*, nor proper for forcing *Labour*, otherwise than as a *Diuretick*.

Sal Ammoniacum.

Sal-Ammoniack is Salt, Pungent, Subacid, and a good *Diuretick*; being compos'd of a *Volatile* and *Acid Salt*. By grinding it with an *Alkaly*, it flies quick into the *Nose*. *Sal-Ammoniack* is also us'd as an *Antifebrifick*. An artificial *Sal-Ammoniack* may be produced by mixing *Volatile Salt* with *Spirit of Salt*; and is a good Medicine.

Sal Volatile Cornu Cervi.

Volatile Salt of *Hartshorn* tastes Cool, Saltish, Pungent, with an Urinous, quick, smoaky Smell: It corrects *Acids*, and gives a quick Motion to stagnating *Spirits* and *Blood*. It is a good *Diaphoretick* and *Diuretick*, and preserves the mixture of the *Blood*.

Sal Fixum.

Fixt Salt tastes Salt, Pungent, and smells weakly Urinous; it corrects *Acids*, and is *Digestive* and *Diuretick*. I observe, that *Fixt Salts* agree in Smell and Taste with *Volatile*; and therefore are of a like Nature and Production.

Salt

Salt of Ash: I tasted it in the Shops *Sal Fraxini* cool and saltish; but, I believe, it was altered by the long keeping of it in the Air, the fresh being very Corrosive.

Salt of Wormwood unpurified, tastes *Sal Absyn-* Cool, Saltish, Pungent, and Bitterish. *Salts thii.* unpurified, taste of the Oyl of the *Vegetables*; and therefore are better than clear Salt.

Salt of Scurvy-Grass tastes only very *Sal Coch-* Saltish. *leariæ.*

All *Fixt Salts* are of a *Salt Taste*; but those *Plants* in which is most *Acrid*, give the strongest Saltness; but this may be altered by the dryness of the *Plant*, and the degrees of *Fire*, or quantity of *Oyl*, joyn'd with *Acid* and *Earth*. By the *Acid* in the *Air*, *Fixt Salts* turn *Nitrose*, and get a cool Taste.

Sea-Salt tastes Salt, Sub-acid, and Pungent; it hinders Putrefaction by the *Acid*, ^{num.} and is *Diuretick*; helps *Digestion*, but is not altered by it.

Spirit of Salt put to an *Alkaly*, produces a *Sea-Salt*. Dr. Grew says, That the *Marine Salts* of *Plants* taste like *Sea-Salt*, and have a *Cubick Figure*. The *Nitrose Salts* of

of *Plants*, he says, taste *Bitter*, and have *Figures* a little corresponding to their *Nitrose Taste*.

Sal Succini Salt of *Amber* tastes *Saltish* and *Pungent*, and smells of *Amber*: Spirit of *Vitriol* will not Ferment with it; but Spirit of *Sal-Ammoniack* will. All *Gums*, *Resins*, and *Bitumens* yield a great deal of *Acid*, and some *Volatile Salt* mixt with it; by which this *Salt* is *Diuretick*; and by the Smell, like *Amber*: It is also *Cephalick*. A *Volatile Salt* may be distilled out of the *Salt of Amber*, by an addition of a *Fixt Salt*.

Vitriolum. *Vitriol* tastes Sweet and Styptick. *White Vitriol* gives a pale Blue, with *Galls* and *Water*: It is used in Distempers of the *Eyes*; and inwardly for a *Vomit*. *Blue Vitriol* gives a *Purple* colour, with *Galls* and *Water*. *Green Vitriol* gives a deep *Purple*, with *Galls* and *Water*. The Stypticity of *Vitriols* makes it good for the *Itch*, and for *Proud Flesh* in *Ulcers*.

Some *Vitriols* have an Acritude in the Taste, besides the sweet *Astringency*, says Dr. Grew. This *Acrimony* is from the *Sulphureous Acid*.

Irish-

Irish Slate: This put into fair *Water* with *Galls*, gives a *Purple* Colour. The Taste of it is *Vitriolick*, *Rough*, and *Acid*: It is therefore most proper to stop *Bleeding* and *Overflowings*; but not to cleanse *Child-Bed Women*, as the *Midwives* use it; and thereby occasion a *Stoppage*, and *Fever*.

Lapis Hi-
bernicus.

Tartar tastes *Sowre* and *Gritty*: It is precipitated from the *Wine*, by the *Earthy* parts adhering to the *Acid*; by which it is *Cooling* and *Diuretick*. All *Acids* in *Vegetables* are of this nature, and are called the *Essential Salts*: Some of which are thought to be *Nitrose*, because of a Bitterness, which is produced by the *Oyl* of the *Plant* adhering to the *Acid*. *Tartar* and *Essential Salts* distilled, yield a *Volatile Salt*, which is a little *Acid*; and such a mixt Spirit is the Spirit of all *Woods*: A *Fetid Oyl* arises with this mixt Spirit of *Tartar*; and the *Caput Mortuum* has a *Fixt Salt*, the *Acid* of the *Tartar* being wholly destroyed: part, fluxing with the *Earth*, produces a *Fixt Salt*: part of it ascending with the *Oyl*, carries some *Earthy Parts* with it, by its *Acidity*; and produces a *Volatile Salt*, and *Sub-acid* Spirit of *Tartar*; The rest of the *Acidity* adheres to the *Fetid*

Fetid Oyl, which yields a further *Volatile Salt*, by addition of *Salt of Tartar*; which affords new *Earth* to the *Oyl Acid*, for production of a *Volatile Urinous Salt*. The same is produced by an addition of *Burnt Alum* or *Lime*.

Sal Essen-
tiale Ace-
tosetæ.

The *Salt* of the *Juyce* of *Wood-Sorrel* tastes *Sowre*, like *Tartar*; and has a *Gritt*, or *White Vitrious Earth*, with which the *Fixt Parts* of the *Acid*, being melted in the *Fire*, produces a *Fixt Salt*. The *Acid* of *Vegetables* contains an *Oyl* in it, but very *Fixt*. This *Acid* in the ripening of *Fruits*, and in *Fermentation* of *Acid Juyces*, fixes upon some *Earthy Parts*, and then the *Oyl* appears; which, by vertue of a little *Acid* mixt with the most *Volatile Oyl*, fixes on some *Gritt* or *Vitrious Earth*, and produces a *Volatile Oleose Salt*; which being much diluted by *Water*, a *Spiritu-ous Liquor* is produced.

Wood-Sorrel yields most *Essential Salt*; by which it's inferred, that all of them are pure *Tartar*.

Tartarus
Vitriola-
tus.

Vitriolated Tartar tastes *Gritty* and *Saltish*; and is *Diuretick* both by the *Acid* and *Fixt Salt*: It will not *Coagulate* any *Liquor*: It is an *Aperitive*, without any *Heat*.

Oyl

Oyl of Nitrated Tartar, made by Deliquium, curdles *Choler* and *Milk*; and is *Diuretick*, as a mixt *Salt*; and tastes *Salt* and *Sub-acid*, like *Nitre*.
 Oleum TartariNitrati per deliquium.

Spirit of Vitriol tastes *Sowre* and *Rough*, by which it cools, and is a good *Astringent*. The *Oyl of Vitriol* is strongest; but has an offensive burning *Heat* upon the *Tongue*, from the *Fire*. The *Spirit* is best in *Fevers* and *Hemorrhages*.
 Spiritus Vitrioli.

Spirit of Nitre tastes *Sowre*, very *Pungent* and *Rough*: The *Sowre* and *Rough* are less in this, than other *Acid Spirits*: It fixes *Mineral Sulphurs*; and therefore condenses all *Animal flatuosities*: The great *Pungency* makes it *Diuretick*, and fitter to dissolve, as a *Menstruum*.
 Spiritus Nitri.

Spirit of Salt tastes *Sowre*, *Saltish* and *Pungent*, from the *Sea-Salt*; and differs only from it, by being more *Acid* and *Cooling*: It is an opening *Diuretick*, and *Stomachick Vertue*; and good against the *Putrefaction of the Gums*.
 Spiritus Salis.

Spirit of Salt, from the *Pungency*, is *Aperitive*; and it has a *Roughness* to strengthen, as well as *Sowreness* to cool.

Spirit

Spiritus
Sulphuris
per Cam-
panam.

Spirit of Sulphur tastes Sowre, and a little sharp; for so I think it most proper to call the Pungency of *Acids*, for the better distinguishing of it from the biting of *Acrids*. The *Acid* of *Sulphur* is more agreeable to the *Stomach*, than any other *Mineral Acids*. There is also a *Roughness* in *Spirit of Sulphur*, but less than in *Vitriol*.

Acetum.

Vinegar tastes Sowre, Sharp and Winy; and is of a Sharp Winy Smell; by which it appears to be a mixt body of the *Kolatile Spirit of Wine*, and the *Tartareous Acids* of the same. When *Acid Liquors* are decayed, they taste flat, without Pungency, but yet Sowre; therefore the Pungency is from the Oyl, and not the Figure only.

Saccharum Saturni.

Saccharum Saturni tastes Sweet and Styptick; by which it Cools, Repels, and Cicatrizes *Ulcers*: This Sweetness is from the Winy Spirit in *Vinegar*; for Chalk with *Vinegar* gives the same Taste: and a *Vinous Spirit* may be distilled from the Sugar of *Lead*. The *Acid* of the *Vinegar* fixing on an *Alkaly*, lets the Oily Parts of the *Wine* loose, on which the Sweetness depends, and not on the *Lead*.

So the Bitterness in the *Pilulae Lunares* depends

depends on the *Sulphur* in the *Nitre*; which appears, most when the *Nitrous Acids* are fixt in the *Silver*; so that in the *Spirit of Vitriol*, mixt with the *Oyl of Tartar*, some Authors have observed a *Bitter*.

The *Oily Acid* in *Saccharum Saturni* has a Smoothness of Parts, produced by the fixing of the *Acids* in the *Lead*; and the *Bitterness* in the *Crystals of Silver* come from a *Rough* Texture of the *Compounded Parts*, resembling the Texture of *Bitters*.

The *Acid* in the Composition of *Saccharum Saturni* makes it cooling.

CHAP. VII.

Of Minerals, and Mineral Earths and Stones.

Flowres of *Sulphur* taste Dry, Sub-Fl. Sulphuric acid, and smell strongly Fetid. ris.

There is a great *Acid* in *Sulphur*, and an *Oily Part*: By the *Acid* it cures the *Itch*, corrodes *Minerals*, and fixes *Volatile Salts*: By the *Oily Part* it is a *Balsamick*

Samick Pectoral, and cures the *Acid* stagnating *Lympha*. Oyl of *Turpentine*, and Oyl of *Vitriol* mixt, and distill'd, yield a *Sulphur vivum*: And being the *Bitumens* and *Petroleum* are so like *Turpentine* in Taste and Smell, I thence argue, That there is a great Agreeableness in *Sulphur* and *Turpentine*; which last seems to be only the Oily Part of *Sulphur*, depriv'd of much of its *Acidity*, and therefore less coagulate by it. Which Opinion I shall farther confirm, by observing, that *Turpentine* is compos'd of the same Principles, as *Sulphur*, of an Oily Part, and an *Acid*; and, besides, has a great deal of Water, to make it fluid.

Sulphur easily mixes with the Oyl of *Turpentine*; both are Inflammable, have the same *Physical* Vertues, and are the Causes of all Smells; the One in *Minerals*, and the Other in *Vegetables*. *Ettmullerus* says, *Anthrax* distill'd, yields an Oyl like *Petroleum*; therefore out of *Sulphur*, *Turpentine-Bitumens* are produc'd: And I have instanc'd above, that out of *Turpentine*, *Sulphur* may be produc'd: Which are convincing Experiments, that *Turpentine* and *Sulphur* have the same Oyl and *Acid*, only in different States and Mixtures.

From

From hence it is evident, that *Chymists* speak not much amiss, when they call the Oyl of *Vegetables* their *Sulphur*; but I do not think it proper to explain the Nature of *Vegetables*, by *Mineral Principles*; though *Galen* calls all Bitter Plants *Nitrose*: because they resemble the Bitterness of *Nitre*, and not for having any *Nitre* in them. For the same reason I might call *Acerb Tastes* *Aluminous*, because they resemble that Taste; but none will allow, that any *Alum* is in the Plants of that Taste.

I will give an Instance of *Sulphur's* Fertility, in producing all the *Salts* in the *Earth*, as well as the *Acids* in *Vegetables*, which I have above intimated; the *Sulphur-Acid* being one Part of the Composition of *Mineral-Salts*.

Vitriol is known to be the Product of the Fumes of *Sulphur*, which corrode *Iron* into an imperfect *Vitriol*: But the perfect *Vitriol* is only made in the *Air*, out of a *Pyrites*. *Spirit of Sulphur* put upon *Iron*, produces a *Vitriol*; and so does the melting of *Brimstone* with it; and likewise the mixing of Flowre of *Brimstone* with Filings of *Iron*, and sprinkling them with *Water*; this put into fair *Water*, with *Galls*, turns Purple.

Alum is produc'd from the *Acid* Fumes of *Sulphur*, dissolving some Stony Matter; for *Spirit* of *Sulphur* will, with *Chalk*, constitute an *Alum*; and *Alum-Stones* are full of *Sulphur*, as Dr. *Lyster* informs us; and where there is most *Vitriol* and *Sulphur* bred, *Alum* abounds most.

Sea-Salt is compounded of an *Alcalizate Body*, or *Vitrious Earth*, and a *Sulphureous Acid*: Hence Flowres of *Sulphur* are sometimes gather'd in the Neck of the Retort, in distillation of *Spirit* of Salt, as *Ettmullerus* intimates. *Spirit* of Salt being re-affus'd upon an *Alkaly*, becomes perfect *Sea-Salt* again, and shoots into *Cubes* after the distillation of *Sal-Ammoniack*, with Salt of *Tartar*. All *Sulphureous Waters* have a *Sea-Salt* in them; which is an Argument of the *Acidity* of *Sea-Salts* being the same as *Sulphur-Acid*, which coagulates with a Stony Matter into a *Fixt Salt*.

Sea-Salt will be fused in a strong Fire, by reason of the *Alkaly*.

Nitre consists of a very *Sulphureous Acid*; which, in Places impregnated with the *Urines* or *Dungs* of *Animals*, has a *Volatile Salt* for its *Alkaly*. In Old Walls, and Stony Places, *Nitre* has some of the *Stone* or *Lime* for the *Alkaly*. In the Springs

Springs of the *Earth*, the Sulphureous *Acid* fixes on *Sea-Salt*; whence, after the burning of *Nitre*, a *Sea-Salt* remains.

Cinnabar corrects *Acids* by the *Sulphur* *Cinnabaris* and *Quick-silver*, of which it is made. It *Nativa*. smells Sulphureous, and tastes Gritty. The *Acid* of the *Sulphur* fixes the *Mercury*; which happens also in the making of all *Amalgamas*; in which the *Quick-silver* is fixt by the *Sulphur* of the Metal. *Cinnabar* is given inwardly for all Distempers depending on *Acids*, and outwardly dries *Ulcers*, and cicatrizes.

Antimony is compounded of much Sul- Antimoni-
phureous *Acid*, and Vitreous *Earth*. um.

Antimonial Medicines have either *Sulphur-Flowres* in them, of which the *Tincture* plainly smells; or else an *Acid* in them, most manifest in the *Clyffus*; from a mixture of both the *Flowres*, and *Acid* of *Antimony*, the Vomitory Faculty arises: For *Sulphur* in *Minerals* answers the *Resin* in *Vegetables*, having both an Oyl Pungency; and both may be produc'd from the Oyl of *Turpentine*, and Oyl of *Vitriol*.

Verdegrease is very Corrosive, good for *Ærugo*.

stopping Putrefaction in *Ulcers*, and for cleansing them; and is produc'd from the *Acid* of *Grapes*, corroding and giving a Green Colour. The *Urine* added in the Preparation, gives a Blue Colour, and helps the Dissolution of *Copper*. *Ettmuller*.

Lapis Lazuli, Armenus.

Lapis Lazuli, Armenus: They partake of the Nature of *Copper*, and very little of *Silver*; by which they are purging: The *Sulphur-Acid* in *Copper* being offensive to an *Animal* Body, and most of the Preparations of *Silver*, which are purging, have their Vertue from *Copper* mixt with it. *Lapis Lazuli*, besides the *Copper*, contains some *Gold*. *Ettmuller* says, They have their *Earthy* Part from *Marble*, and are found in *Copper-Mines*, and *Gold-Mines*.

Tutia & Pompholyx.

Tutia and *Pompholyx* are the Products of *Copper*, and very drying in *Ulcers*. They are the Soot of *Copper*.

Lapis Medicamentofus.

Lapis Medicamentofus is of a Salt *Astringent* Taste, by which it cleanses and heals *Ulcers*.

Pumex.

The *Pumice-Stone*, burnt and quenched in

in *Vinegar*, is a good *Dentrisice*: The vertue of *Stones* that have neither Taste nor Smell, are only absorbent of *Acids*, and drying in *Ulcers*: But *Pumice* yields a *Green Tincture*, with *Spirit* of *Vinegar*; and therefore contains *Copper*.

Lime-Water tastes Saltish, and is of a Calx. mixt nature, partly *Alkaline*, because it gives a Volatility to *Sal-Ammoniack*, which is a *Salso-Acid*; and it precipitates *Minerals*, dissolved by *Acids*: But it has also an Acidity, and coagulates Oyls into *Butter*: So Oyl of *Roses* grows Thick and *Butyrose*, if mixt with *Lime-Water*.

Spirit of Salt, distilled from *Lime*, yields a *Volatile Urinous Salt*, like *Spirit of Urine*; which shews the little difference betwixt *Volatile* and *Fixt Salts*; and that an *Acid* is an Ingredient of both sorts. An excellent and useful *Salt* may be drawn from the *Caput Mortuum*: *Ettmuller*. Quenched *Lime* is very cooling and drying in *Ulcers*, though the unquenched be Caustick; which proceeds from the mixt *Salt* of *Lime*. The Oily Part of the *Sulphur* is lost by the *Fire*; the *Acid* mixes with the *Earthy* Parts into a mixt *Salt*.

Silex. *Flint* has no *Lixivial Salt* in it. When Burnt and Quenched in *White-Wine*, it is used as a *Diuretick*. *Flint* has a Sulphureous Smell, and communicates somewhat of a Sulphureous *Acid*, to the Liquor it is quenched in.

Creta. *Chalk* has a Gritty Taste, and a strong Earthy Smell; it corrects *Acids*. Outwardly it corrects *Acids* in *Ulcers*, and has something of the nature of *Lead*.

CrySTALLUS & Lapides pretiosi. *Crystals and Precious Stones*: I cannot find any thing in them, but a Grittiness, for curing *Acids*. The *Mineral Tincture* is too little to have any effect; and *Effluvia* are not to be expected from such Solids, of any force.

Corallium. *Coral* has a Gritty Taste, and a Musky Smell, when ground to Powder; by the former it absorbs *Acids*, and by the latter is Cordial; which Cordial Fragrancy, I believe, depends upon the *Milky, Acid, Astringent* Liquor, observed in *Corals*. *Corals* Calcined effervesce upon the affusion of Water, like *Lime*. They yield an *Acid Phlegm* in distillation, and are of a middle nature betwixt *Minerals* and *Vegetables*. *Ettmuller* says, The *Tincture* and

and *Salt of Coral*, are compounded of *Coral*, and a *Menstruum*, which is *Acid*.

Pearls taste *Gritty*, and have the same *Perlæ*. *Musky* Fragrancy when ground; and the same *Cordial Vertue* as *Coral*. They have their *Origine* from a *Milky Liquor*, somewhat *Saline*, which is bred in the *Animal*, and (as *Stones* in the *Bladder*) becomes a *Mineral*.

Oyster-shells yield but a little *Volatile Testæ O-Salt* in distillation, but much *Water*. *stercorum*. There were some *Volatile Salts*, which turned the *Syrup of Violets* Green; therefore *Oyster-shells* have little of *Animal Substance* in them, and are not of the nature of *Bones*; for *Shells* have a *Lixivial Salt* in them, like *Lime*. I doubt, whether the *Volatile Salt* obtained from them, was not from some part of the *Oyster* sticking to the *Shell*.

Burnt Oyster-shells absorb *Acids*, are drying in *Ulcers*, and are good *Dentrifices*, if burnt with *Common Salt*; and Cure *Putrid Gums*. The curious *Observers* of the *Crystallization* of common *Salt*, tell us of a white *Sand*, which settles to the bottom, distinct from common *Salt*: It may not improbably be supposed, That the
Shells

Shells have their Original from such like Sandy Coagulations in the *Oyster*, that lives] on *Salt-Water*; the *Water* in the Shells being perfect *Sea-Brine*, as was manifest to my Taste, when I had evaporated the Liquor; and therefore it is not *Antiscorbutick*, as is supposed. Such an insipid *Earth*, Dr. Grew observed to fall out of the *Lixivium* of *Ash-balls*; and the like *Earth* is Precipitated upon the Vitriolating of the *Salt of Tartar*. From such a Principle, I suppose, *Petrification* does proceed.

Lapis
Spongiæ.

Sponge-Stone distilled, yields a *Volatile Oyl* and *Salt*, like *Animals*: for which reason the Calcined is used for *Scrophula's*, to absorb *Acids*.

Oculi Can-
crorum.

Crabs-Eyes are of a *Gritty Taste*, and a strong *Chalky Smell*; if dissolved in *Vinegar*, they taste *Bitterish Salt*: and therefore are *Diuretick*, having a latent *Volatile Salt*.

Chelæ
Cancro-
rum.

Crabs-Claws have a strong *Fetid Smell*, and act as a *Gritt* in absorbing *Acids*; and by their *Fætor* (which intimates a *Volatile Oily Salt*) they are a little *Diaphoretick*. A Solution of *Sea-Shells*, or
other

other *Stones* in Spirit of Salt, produces a Saltish Taste, and so becomes a *Diuretick*. All *Marine* things Calcin'd, are like *Calx viva*.

All *Alkalizate* Medicines change their Taste and Nature in the *Stomach*. The *Fixt* and *Volatile Salts*, by the *Animal Acid*, turn *Sal-Ammoniack* or *Common Salt*. *Testaceous* Medicines become also Saltish. All *Earths* change to Aluminous and Astringent Tastes. And *Minerals*, especially *Iron* and *Copper*, become *Vitriolick* in the *Stomach* of an *Animal*.

Marble is of the nature of *Lime*, and *Marmor*. yields the same *Salt*.

Alabaſtre: The *Lixivium* of it differs Alaba-
not from *Aqua Calcis*. The Powder of ^{ſtrum}.
Alabaſtre is taken againſt the *Dysentery*;
and a cooling Oyntment is made out of it,
for the *Head*.

Blood-ſtone is of the nature of *Iron*, and *Lapis Hæ-*
may be uſed inſtead of *Crocus Martis* for *matitis*.
Hæmorrhages; and is a good *Ophthalmick*
Cicatrizer. The Flowres of it, Sublimed
with *Sal-Ammoniack*, are of an *Orange*
Colour and *Saffron Smell*; and therefore
make an excellent *Medicine*.

Calamin-

Lapis Calaminarius. *Calamin-stone* is of a Martial nature, easily absorbing *Acids*, and cicatrizing very well; it becomes Astringent by the mixture with *Acid*.

Ochra. *Ochre* has the nature of *Iron*, and is a *Styptick Earth* in Taste, because of some *Copper* that *Ochre* has mixt with it: The use of it is most externally, as an Astringent.

Bolus Armenica, Terra sigillata, Lemnia. *Bole Armenick*, Sealed and *Lemnian Earth*: They stick to the Tongue at first; which shews their Astringency, whereby they are fit for all *Fluxes*: They taste also Fat and Mucilaginous; by which they allay Sharp *Acrid Salts*; and the *Earthy* Parts absorb the *Acid*. They have also a strong *Earthy* Sulphureous Smell, whereby they may be also *Diaphoretick* in *Ulcers*. They cicatrize, and in *Fevers* resist Putrefaction. By their Astringency, and by their Mucilage, they conglutinate *Wounds*. *Bole-Armenick* has something of the nature of *Iron*, and its *Sulphur*, and yields an *Acid* in distillation.

Catechu. *Earth of Japan* is Bitterish and Astringent; whereby it stops *Catarrhs*, in *Lozenges*:

ges: It is a little Sweet and Perfumed, and Fat like *Bole*, and Gritty. From these Tastes it seems a Composition of Juyce of *Liquorish*, *Bole*, and some Perfume, and not a natural *Earth*. *Ettmuller* says, It is compounded of *Sang. Draconis*, *Gum Arabick*, and *Glycyrrhiza*.

Marle tastes Rough, and feels Oyly, *Marga*, and has very small Sandy Parts; it will not burn in the *Fire*, nor melt. It improves Ground, by furnishing a Slime for *Plants*.

It is used outwardly for the *Acid* in *Ulcers*; and corrects the same, given inwardly to half a drachm, in Sharpness and incontinency of *Urine*, depending on the Acidity of it.

Raddle: It has the nature of *Iron*, by *Rubrica*, which it is *Aperitive*; but most like other *Earths*, *Astringent*; good in *Fluxes*, like *Crocus Martis Astringens*; in *Ulcers* *Cicatrizing*; and it cures the *Acid* in *Humors*.

ΦΑΡΜΑ-

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:

OR, THE
Touch-stone of Medicines, &c.

The Fourth Part.

OF THE
Tastes and Vertues
OF
Animal Medicines.

C H A P. I.

*Of the Origine of Animal
Humors, and their Natural
Tastes.*

IT is very probable, that *Animal* Humors and Tastes have the same Principles, Mixtures, and Tastes depending on them, as the Juyces of *Vegetables* have; because *Animals* are fed out

out of *Vegetables*, and thence prepare their Humors. *Plants* prepare their Juices by Fermentation, reducing them from the State of *Mineral* Mixture, to a more rarified condition: So *Animals*, by their Digestions in their *Stomach*, rarify and ferment *Vegetables* into a looser Texture, and an higher Degree, to fit the *Vegetables* for the proper Nature of *Animals*. Therefore the same Principles are observable in *Minerals*, *Vegetables*, and *Animals*, and differ only by different Digestions and Mixtures: And I shall also prove, That from *Animals* the same Principles turn into *Minerals* again.

Because *Vegetables* are but a middle State betwixt *Minerals* and *Animals*, and are design'd for the Food and Medicines of *Animals*, I think it very necessary to discourse of *Animals* next, and to give an Analogy betwixt the Principles of *Both Kingdoms*; and from thence the Operation of *Medicines* will be more evident; especially of the friendly *Specificks*, which so much resemble the *Animal* Humors in Taste, Principles, and Mixture.

When a *Vegetable* is taken for Food, and chewed by the *Animal*, it is thoroughly mixt with the *Saliva* of that *Animal*; which, when the Pulpy Nourishment is heated by the *Stomach*, begins, by its Natural

natural *Acid*, to work on the Oily Part of the *Vegetable*; as also, the *Acid* Relicks of the former Digestion do; and, by their Contrariety, a Fermentation is produc'd, which loosens the whole Texture of the *Plant*. Whence the *Plant* is dissolv'd by the Liquor, which is drunk; as also, by the *Lympha* of the *Stomachick Glands*, into an *Alimentary Tincture*.

From this Efficacy of the *Saliva*, it appears, how much Spirituous *Acid Medicines* conduce to the promoting the Fermentation necessary for the Dissolution of *Aliments* in the *Stomach*: And we find by Experience, that *Testaceous Medicines*, by destroying the Natural *Acid*, abate the *Appetite*, and hinder *Digestion*.

I have affirmed, That the Effervescence betwixt *Oyl* and *Acid*, is the cause of Fermentation in *Vegetables*; and the same is the cause of Digestion in *Animals*: Which therefore is not any ways different from Fermentation; in which the *Acid* acts on the *Oyl* chiefly, and not on the whole Mass, as a *Menstruum*. *Acids* are most manifest in the *Stomachs* of *Animals*, and in their *Chyle*, which is Milk; and also in their *Urine*, *Sweat*, and *Salts*; of which I will give Instances hereafter. *Acid Smells* are manifest upon the Artificial Fermentations

tations of *Vegetables*. This *Alimentary Tincture* smells *Sub-acid*; but that is corrected, by coagulating with the *Choler* in the *Duodenum*: Whence the Mass of Nourishment there, seems to be huff and coagulated; and therefore yields the thinner Part like *Milk*, which is strain'd into the *Lacteals*.

Bitters and *Bitter-Acrids* are *Stomachicks*, and help *Digestion*; because they have an Oily *Acid* in them, which, by *Digestion*, is easily separated in the *Stomach*: And for the same reason, *Vinous Medicines* are *Stomachicks*, helping Fermentation.

Chyle, in the *Lacteals*, has only the State of *Milk*; and therefore Meats are not immediately dissolv'd into perfect *Oyls*, and *Volatile Salts*, as is commonly thought, no more than when *Wines* are fermented, no *Inflammable Spirit* is produc'd, till a full Fermentation has preceded.

In this Milky *Chyle* the *Oleose* Parts are kept Fluid in the *Serum*, by Mixture with the *Acid* naturally mixt with all *Oyls* and *Fats*; and the *Caseous*, or viscid Parts, which also naturally attend *Oyls*, are intermixt with the former, and make the *Oyls* Dissolution more easie in *Watry Liquors*.

The

The Nature of *Chyle* being not different from *Milk*, that is rationally us'd to supply the defect of it.

This *Milky Liquor* runs into the Receptacle of *Chyle*; and there, from the *Lymphatics*, and also the *Glands* of the *Mesentery*, meets a *Saltish Serum*, which gives the *Milk* a *Saltish Taste*, and preserves it from Coagulation. Whence we observe the use of *Salts*, in attenuating *Chyle*, and helping its Distribution.

This salt *Serum*, added to the *Chyle*, corrects the *Acid* of the *Chyle*, dilutes its Thickness, and disposes it to turn into the *Serum* of the *Blood*. But this abounding *Acidity* in the *Chyle*, is fully absorbed by the *Salts* of the *Blood*; and the *Oily* Parts of the *Blood* imbibe the same; and therefore the *Milk* immediately turns of a clear *Limpid* Colour, like the *Serum* of the *Blood*. I have frequently turn'd the *Serum* of the *Blood* into a *Milky Liquor*, by *Spirit* of *Nitre*, which must be stirr'd after the Mixture: And I have reduc'd the same into *Serum* again, by *Spirit* of *Sal-Ammoniack*.

From whence I conclude, That *Milky Liquors* have an *Oily Acid* in them; and *Milk* is turn'd into *Serum*, by the Separation of its *Acid*, as the fore-mention'd

Experiments sufficiently prove. And for this Reason we use *Volatile Salts* to help *Sanguification*, and *Oily Vegetables*, which absorb the *Acidity* of *Chyle*.

This *Milky Chyle* does not suddenly change its Nature into *Blood*, but circulates with it; and is observ'd swimming on *Blood*, if lett out after a full Meal.

Whilst it continues in this State of *Milk*, it produces the *Lympha* of the *Glands*; which are Conglomerate, and are design'd for the use of the *Chyle*: This *Lympha* being like *Barm*, which is separated from a Fermenting *Liquor*; and is therefore fit to raise a new Fermentation in other *Liquors*.

The new *Chyle* circulating with the *Blood*, has only its thin Part separated by the *Salival Glands*, and also the *Pancreas*: And this has a *Milky, Sub-acid* Taste. The thicker Viscid Part is separated by the *Glands* of the *Stomach* and *Guts*; which I have gather'd in the *Guts* by their Ligature: And this in the *Guts* serves for a Sliminess natural to the *Guts*, and is of the Nature of *Mucilages*; and its defect may be supply'd by them: But the defect of the Conglomerate *Glands*, by *Milk*; which supplies them with a *Milky Sub-acid*

acid Lympha, which is the proper Ferment for *Digestion*.

The greatest Portion of the *Oily* Part of *Chyle*, turns into *Fat*, which tastes not unlike *Butter*. This being full of an *Acid*, is easily separated from *Milk* by a long Agitation; which also happens in the *Chyle* of *Animals*, whose *Butyrose* Parts are separated from it by a long Circulation with the *Blood*, and thence separated into proper Vessels.

Some Part of the *Oyl* and *Acid* of the *Chyle*, being much cleared from the *Casaeous* Parts, (which is not separated from *Fats*, but gives *Suet* its *Gumminess*) is digested by long and frequent Circulations into the Red Part of the *Blood*; which looks Florid on the top of the *Blood*.

From this Mixture of *Oyl* and *Acid*, the Redness is produc'd; so by the Mixture of *Oyl* of *Turpentine*, and *Oyl* of *Vitriol*, a reddish Colour is produc'd; and a clear Red, by Mixture of the same *Acid* with *Oyl* of *Anniseeds*: Therefore this Red Part of the *Blood* may be compar'd to the *Resins* in *Vegetables*, and the *Sulphur* in *Minerals*, which give the same Red Colour; which is evident in *Tinctures* from *Resins*, and in *Tinctures* of *Sulphurs*. *Resinous Plants* and *Sulphurs* supply the defect of it,

and rarefy the *Blood*, and increase its Red Colour. The *Blood* appears most Florid in *Scurvies* and *Hæticks*, where the *Oyl* and *Acid* are most exalted and fermented. *Wormwood* and *Bitter-Acrids* have the same Effect on the *Blood*, and heat it; and many times rarefy it too much, by their Analogous Mixture of *Oyl* and *Acid*.

From this Effervescence of *Oyl* and *Acid*, the Heat of the *Blood* arises; to the increasing of which, the Circulation of the *Blood* much conduces; for in the mixture of *Oyl* of *Turpentine* and *Vitriol*, the Heat increased, as I stirred it with a Stick; and this Heat is more lasting, than any Effervescence made by contrary *Salts*. This Opinion may be confirmed by the mixture of fresh *Oyl* of *Turpentine*, and Spirit of *Aqua Fortis*, which will produce a Flame. We may not improbably conjecture, That the Ferment is of the same nature in *Epidemical Fevers*, which depends on the *Air*. And all Infections may be produced by the like Combinations of *Oyl* and *Acid*, which are very *Volatile*, and subtilly insinuate themselves into the *Blood* by the *Lungs* or *Saliva*.

This *Oily Acid*, or Red part of the
Blood,

Blood, produces *Animal Spirits*, which may be fitly compared to the *Effluvia* of *Aromatick Plants*; which are small, *Oily*, *Acid*, *Acrid Particles* of the *Resins*, or *Turpentine*s of *Plants*, lighter than the *Air*, and therefore continually spent by *Effluvia*s.

This Opinion may be confirmed by the Vertue of *Aromaticks*, which refresh the *Spirits*; and of *Narcotick Fetids*, which offend them; but by both it is plain, *Smells* work most on the *Spirits*.

This *Oily Acid*, whilst it is less digested, has a *Viscid*ity attending it; and then produces a *Sweet-Taste* in the *Serum*; and by a higher Digestion, a *Bitterness*; both which Tastes of *Sweet* and *Bitter*, are evident in *Choler*, with a mixture of a *Glutinous Serum*, which makes *Choler Ropy*. This being separated by the *Liver*, acts like *Fixt Salts*, in correcting the Acidity of *Chyle*. The same is the use of *Bitter Hepaticks*; and some of them taste *Bitter*, *Sweet*, and *Slimy*.

The *Caseous*, or thick *Viscous* Parts of the *Chyle*, by a long Circulation through the Pores of the *Flesh*, are drawn into *Fibres*; which are the immediate Nourishment of the *Fibrous Parts* in *Animals*; but the *Glandulous Viscera* of the Body

taste *Slimy*, and not *Fibrous*; and therefore are nourished by the *Caseous* Parts, before they be digested into *Fibres*, and whilst it remains in the state of Viscidity. The *Fibrous Sediment* in the *Urine* is from hence; and therefore is a sign of a good Digestion in the *Blood*.

The *Oily Acid* of the *Blood*, when it has arrived to a perfect Digestion, and is in a disposition to breed *Spirits*, supplies matter for the *Semen* in the *Testes*; and from hence arises the *Fætor* of it, when it is further digested, than was necessary for *Spirits*. So in *Vegetables*, the Seeds are *Oily*, and *Slimy*; and the Smells of *Fetid* and *Aromatick*, differ only in degree; and both arise from *Resinous* mixtures.

The *Oily Acid* of the *Blood*, being farther rarefied and digested, fixes on some light *Earthy* Parts in the *Blood*, and unites into a *Volatile Salt*. So *Plants* Putrefied, yield a *Volatile Salt* from the same kind of mixture. This production of *Salt* is the ultimate Resolution of *Chyle* and *Blood*. This fixing on the *Acid* of new *Chyle*, becomes an *Ammoniack Salt*, which is natural to the *Blood*, and preserves it from Putrefaction; and supplies the *Salt*, observable in *Sweat* and *Urine*; and therefore all mixt *Salts* are *Diuretick* and *Sudorifick*.

The

The Honourable and Learned Mr. Boyle mentions an Experiment of putting Oyl of *Vitriol* upon *Sal Ammoniack*; from whence a cold Effervescence is produced, tho' it be a violent one: The same Effects happen to the *Blood*, whose *Salts* are fixed; and Coolness is produced in the whole *Animal*, by the use of *Acids*: And such a kind of *Acid* mixing with the *Salts* of the *Blood*, may cause irregular Chilness in *Fevers*, and the *Scurvy*.

This *Ammoniack Salt* always swims in the *Serum*, and gives a Salt-Taste to the *Blood*, and to the *Lymphatick Liquor*; which tastes *Salt*, and will inspissate by the *Fire*; by which it differs from the *Liquor* of the *Conglomerate Glands*, which is *Milky, Sub-acid*, and not naturally *Salt*; but it is *Salt* in *Catarrhs*, because the *Lymphatick Juyce* is stopped in its proper Vessels: It is forced upon the *Conglomerate Glands*, and the *Salt Serum* is evacuated by them, which irritates so much in *Catarrhs*; for the Cure of which, the *Serum* of the *Blood* must be restored to its Circulation, thro' the *Lymphaticks*, (from the habit of the Body) by *Cephalick* and *Arthritick* Medicines; the quantity of it evacuated, and the thickness which stops its Circulation, diluted; or the Coagulations

ons dissolved by *Salts*, which are natural to it. From the great Use of this *Ammoniack Salt* in *Animals*, I think an Artificial *Ammoniack Salt*, made of *Volatile Salt*, and *Spirit of Salt*, a very useful *Diuretick*, *Diaphoretick* and *Digestive Medicine*, helping Sanguification.

Note, All *Volatile* and *Fixt Salts* are made *Ammoniack*, by the *Stomach's Acid*.

Of the Use of the Spleen.

Malpighius has describ'd the *Glandules* of the *Spleen*; and thence inferred, That some *Liquor* is separated by them, which is immediately remixt with the *Blood*, and carried to the *Liver*, to help the separation of *Choler*.

The *Choler* is like the *Turpentine* in *Vegetables*, very *Bitter*, from an *Oily Acid* digested into a particular Texture. And there is also a *Gumminess* or *Sliminess* in *Turpentine* and *Choler*. The Bitterness of *Choler* is from the *Oily Acid* of the *Blood*; but the Ropy Slime of *Choler* comes from the *Glandules* of the *Spleen*: Tho' some part of its Slime is separated by the *Glandules* of the *Vesica Biliaria*, and *Porus*; yet it is impossible, that those few *Glands* could furnish the Slime observed
in

in *Choler*; which is more than the *Bitter* Part, very considerably. The *Glandules* of the *Pancreas* were too many, to have their situation in the *Guts*; for by that thickness of the *Glandulous Coats*, their motion would have been hindered; therefore the *Pancreas* was placed near to the *Guts*, to supply that quantity of *Lympha*, which was necessary for the *Chyle*: And such is the Use of the *Spleen*, which supplies the *Liver* with a sufficient quantity of Ropy Slime; which inviscates the Bitterness of *Choler*, and disposes it for Percolation through the *Liver*.

Volatile Oyls may be mixt with *Watry Liquors*, by means of the Sliminess in the Yolk of an *Egg*; and by means of its Gumminess, *Turpentine* is dissolved in *Water*; and in *Vegetable Seeds*, the *Oyl* and *Slime* are generally joyned; the *Oyl* without it being indissoluble in *Water*. There being so great a Congruity betwixt the *Slime* and *Oyliness* of *Vegetables*, it is very probable; that the slimy Juyce of the *Spleen* mixes readily with the *Oily Acid* of *Choler*; and therefore it was necessary, that the *Succus Glandulosus* of the *Spleen*, should be immediately remixt with the *Blood*, for to associate with the *Oyliness* of *Choler*.

If

If we consider the Use of the rest of the Branches of the *Cœliack Artery*, the like Juices are carry'd through the rest, to be separated in their proper *Glandules*: That Branch which goes to the *Omentum*, carries the Oily Fat of the *Animal*; which Oyl has a sort of *Gumminess* mixt with it: That Branch which goes to the *Stomach*, carries a Slimy *Lympha* thither; and the other carry the same to the *Pancreas*, and *Guts*, and *Glandules* of the *Mesentery*: Therefore, that Branch which goes to the *Liver* and *Spleen*, carries some analogous Slimy Liquor: That to the *Liver*, carries a Sliminess sufficient to preserve the Coats of the *Gall-Bladder* and *Porus* from the *Acrimony* of *Choler*. But these are not sufficient, without the supply of the Slimy Liquor of the *Spleen*, to give so great a quantity of *Slime*, as is evident in *Choler*; at least, three Parts of it are *Slime*.

This *Sliminess* is not only necessary for the Separation of *Choler*, but also for the Preservation of it in the *Vesica Fellea*; for the *Slime* tempers the *Acrimony* of the Bitter in *Choler*, which would irritate the *Membranes* of the *Bladder*, and cause its Expulsion; as it does in the *Guts*, when it comes in great quantity thither.

This

This *Sliminess* causes *Choler* to descend leisurely, and by parts, into the *Guts*, that it may be the better mixt with the *Chyle* descending out of the *Stomach*.

In the *Guts*, this Ropiness of *Choler* collects the grosser Parts of the *Chyle*, as the White of an *Egg* clarifies Decoctions: And by this means the *Acid Tincture* of our Food coagulates *Choler*, with the thicker Parts of the *Alimentary Mass*, into a Consistence; which grows more thick, as the thinner Part goes into the *Lacteals*.

If we consider, that this *Slime* is easily thickned by *Acids*, we may thence believe, that an Obstruction may happen in the *Glandules* of the *Spleen*, as well as in the other *Glandules* in *Hypochondriack* Distempers; in which *Acids* abound in the *Blood*, and, by coagulating this *Slime*, produce those Obstructions observ'd in the *Spleen*, by a Pulsation on that Side of the *Hypochondrium*. If the Separation of this *Slime* be hindred in the *Spleen*, it is carry'd into the other *Arteries*, neighbouring to it, and is strain'd by the *Glandules* into the *Stomach*. Whence a great Appetite is observ'd in *Dogs*, that have their *Spleens* cut out; and also in *Splene-tick* Persons. And by this *Sliminess*, the
Stomach

Stomach is loaded with *Phlegm*, and the *Guts* with *Slime*; and the *Pancreas* and *Liver* suffer with the *Spleen*; and also all the *Glands* of the *Mesentery*. And from the slimy *Phlegm* in the *Stomach*, the Natural Ferment is perverted, and *Ructus* continually rais'd; and the whole *Digestion* is vitiated. From whence, and the Obstructions, all the *Hypochondriacal* Symptoms are deducible.

The *Medicines* which cure *Spleen-Distempers*, are *Absorbers* of the *Acids*, which produce them; and *Openers* of Obstructions, as *Bitter-Acrids*, and *Aromatick-Acrids*, &c.

A *Volatile Salt* is not produc'd in *Animals* by any of the *Viscera*, neither is an *Acid*; for the *Acid* comes from our *Chyle*, and the *Volatile* is made by a long Fermentation: Upon a due Mixture of both, an Healthy State of our *Blood* depends; when the *Volatile Salt* abounds, hot *Scurvies* and *Hecticks* are produc'd; but from the abundance of *Acid*, a cold *Scurvy*, and the Distempers of the *Spleen*.

All Authors call the Humor prepar'd by the *Spleen*, *Tartareous*; and *Galen* plainly says, *Melancholy* is an *Acid* Humor. Others call the *Splenetick* Humor, a Ferment

ment for the Blood. But we may more rationally argue, from the Structure of it, that a *Glandulous* Humour is separated, which serves for the Separation of the *Choler*; and such is necessarily Glutinous and Viscid: And this is manifest in the *Choler* it self. But I cannot find, that the *Spleen* tastes *Acid*, as Authors affirm; but rather *Slimy*; and has the Savor of *Blood* mixt with its *Slime*. The *Acidity* is rather suppos'd, than manifest to any *Sense*.

The use of the *Spleen*, in the Sense I have explain'd it, suits with the Opinion of *Aristotle*; who calls the *Spleen*, *Ἡπαρ σπλιν*: And is not much disagreeing from that of *Galen's*; who says, The *Spleen* cleanses the *Limose* thick *Melancholy* Humor; and he affirms, That it came from the *Liver* to the *Spleen*: But I have given it its Natural Course. To all which I must add, That the same Distempers affect both *Liver* and *Spleen* alike; both are obstructed, and the same Medicines are us'd for both, viz. Openers of Obstructions.

This *Slimy* Humor, separated by the *Spleen*, being the true *Melancholy* Humor, I must declare, That *Melanogogues* must be also *Phlegmagogues*; becaufe this Humor is separated with the *Choler* by the *Liver*:

Liver: And therefore *Bitter-Slimy* must be the Composition of the Tastes of *Melanogogues*. So *Senna* is *bitterish* and *slimy*; and so is *Agaric*, *Aloes*, *Colocynthis*, and the *Hellebores*. Besides which Tastes, there is a moderate Degree of *Acrimony*, for a suitable Irritation in the purging of the *Melancholick* Humor; which is a Composition of *Choler* and *Phlegm*, thickned too much by an *Acid*. And therefore a Purging Medicine, which is *Bitter-Slimy* and *Acrid*, is proper and peculiar for the purging of *Melancholy*, and altering of it; and by the *Acrimony*, which is a *Volatile Salt*.

C H A P. II.

Of the Analogy betwixt Animals and Minerals.

ANIMAL Humors return to the State of *Minerals* immediately, without passing through the Nature of *Vegetables*.

The *Tartar*, or *Acid* of *Animals*, unites into a *Stone* in the *Kidneys* and *Bladder*; and

and the *Salt* of the *Blood* shoots into *Sandiness*, which lodges in the *Kidneys*; tho' some *Salts* shoot into *Chalky Earths*, in the *Lymphaticks* of *Gouty Persons*.

Of this Nature are the *Scales* on the *Teeth* of *Scorbutick Persons*; *Bones*, *Nails*, and *Horns* are not far from the Nature of *Stones*: For the *Ligaments* of *Animals* are often found petrify'd; and there is scarce any Part of the *Body*, in which *Stones* have not been found.

The *Nitrum Calcarium* is the Principle of *Petrification* in *Minerals*, *Tartar* in *Vegetables*, and the *Ammoniack Salt* in *Animals*: This has a great Congruity with the Nature of *Nitre*, which requires *Animal Parts* for its Generation, and some *Crepitus* smells like *Gun-Powder*, and burns like it.

A natural *Sal-Ammoniack* is bred amongst *Minerals*, like that in the *Blood* and *Urine* of *Animals*. Hence the *Calculus Humanus* yields a *Volatile Salt* in *Distillation*.

The *Shells* of *Oysters* have *Lime-stone* in them, and yield a *Salt*, by *Calcination*, like it: They are also more heavy than *Animal Stones*; and yield nothing of an *Animal Substance*, but an abundance of *Water*, and a little *Salt*.

G

There

Therefore these are undeniable Instances of *Animal* Humors returning into the Nature of *Minerals*. So that Dr. *Lyster's* Assertion, That *Calculus Humanus* is a *Metallum*, is not unreasonable; which he proves by the likeness to the Colour of the *Ochre* of the *Pyrites* and *Lime-Stone*; but especially, by the following of the *Load-Stone*. The Stony Particles may be supply'd from Stony Parts taken in with the *Water* we drink: But it is necessary, that a *Salt* be coagulate with it, to give it the Nature of a *Nitrum Calcarium*, which may shoot into Plates; and those compose the several Coats in *Stones*.

The *Sulphur* of *Animals* is not unlike the *Sulphur* of *Minerals*. Hence Putrify'd *Flesh* has a *Fætor*, equalling that of *Brimstone*, especially that of *Urine* and *Blood*; which yield those curious *Noctilucas*, which differ nothing from *Sulphur*, by their Smell and Burning. A Nidorous *Rutilus* resembles the *Fætor* produc'd by the *Sulphur* of *Iron*, in its Dissolution by an *Acid*: And *Steel*, prepared with *Volatile Salts*, has the Smell of *Marigolds*, *Saffron*, and consequently, the *Menses*.

An *Epileptical* Person complain'd to me of an *Aluminous* Taste in the *Spittle*, after every Fit.

I have

I have been often sensible of a *Vitriolick* sweet Taste in my *Mouth*, by the spitting of *Blood* from the *Head* and *Gums*; which made me think I had tasted *Vitriolum Martis*, or some *Steel-Medicine*: And by that Taste I perceiv'd the return of that *Scorbutick* Spitting of *Blood*. I cannot understand whence this Sweet Taste proceeds, unless from an *Acid* corroding the *Teeth*.

I have observ'd divers *Hysterical Women*, who have vomited an *Acid*, which would corrode *Metals*, and set their *Teeth* on edge, like *Vitriol*.

I have mention'd a *Volatile Salt* distill'd from *Coals*; and a *Fetid Oyl*, like that of *Harts-Horn*.

The *Earth* of *Animals* will indure *Fire*, beyond *Minerals*; and therefore *Cupels* are made of burnt *Bones*: And *Becherus* mentions the *Vitrifying* of *Animals*, as well as *Minerals*.

I shall mention but one thing more, from which the *Congruity* of *Principles* is suppos'd; which is, That many *Mineral Stones* have the *Figures* of *Animals* in them; and some resemble *Bones*, and the *Brain*, and other *Parts* of the *Body*: Which argues the *Similitude* of *Nature*,

as the *Salts* of *Plants* resemble the Figure of the *Plants*, from whence they are produc'd; and the *Salts* of *Vipers* shoot into like Figures; and the *Salts* of *Harts-Horn* into Figures like *Horns*.

The *Spirits* of *Animals* I have compar'd to the Smells of *Vegetables*; and if they rise from the *Oily*, *Acid*, Florid Part of the *Blood*, which I have compar'd to *Resins*, because the red Part does not dissolve in the *Serum*; it must be acknowledg'd, that the *Spirits* of *Animals* are Inflammable, like *Sulphur*: From whence arise the Flashings before Fits of *Convulsions*, the Sparkles appearing in the *Eyes*, and the Flashings observable in *Plethorick* Bodies, upon the pulling off their Stockings and Cloaths.

Nitre and *Sulphur* are the Cause of all the *Explosions*, *Fires*, and *Earthquakes* amongst *Minerals*; and such is the Mixture of the *Spirits* in *Animals*: From whence strange and great Motions are produc'd.

C H A P. III.

The Tastes and Odors of particular Animal Medicines.

Natural Salt of Animals: The natural Salt in the Blood and Urine, is a mixt Salt of Volatile and Acid, like common Sal-Ammoniack; the same mixt Salt is in an imperfect state, in the Dung of Animals; from which (exposed to the Air) Nitre is bred, by addition of a Sulphureous Aerial Acid: And from this Salt, Blood, Urine and Dungs have their Vertue and Saltness. If the Sulphureous Acid of the Air, did by Inspiration of the Air, mix with the Blood, (as Authors affirm) the Salt of the Blood would be purely Nitroſe; which is not apparent to the Taste. Urine smells strongly Lixivious; and by the addition of Calx viva, easily in diſtillation yields a Volatile Salt; the Acid thereby being looſed from the Volatile Salt, as well as by Fermentation; in which the Acids of

Urine fix upon the *Earthy* Parts, and give liberty to the *Volatile Salt*.

The higher any *Animal* Humors are fermented, the stronger is the *Salt*; as in *Salt* of *Vipers* *Flesh*, *Blood*, *Urine*, *Choler*, and of all *Fetid Animals*. The *Volatile Salts* of *Insects* are most penetrant, and their Bodies smell strongly *Fetid*. The *Oyl* of *Animals* Chymically Prepared, is very *Fetid* and *Anti-hysterick*. *Urinous Spirits*, and *Oyls* of *Animals*, are externally good *Discussers* in *Scrophulous Tumors*, and allay *Arthritick Pains*.

SalVolatile *Chymical Volatile Salts of Animals:*
Animalium When Spirit of *Hartsborn* is distilled, it wants many Rectifications to clear it from that *Acid*, which is naturally mixt with *Animal* Humours. Our Dyets being of *Fruits*, *Herbs*, *Liquors*, *Bread*, and *Milk*, they all afford a great quantity of *Acid*; (the *Animal Acid* being the same which is in *Vegetables*); from whence they receive their *Sulphur Acid*. All *Stomachs* of *Animals* being opened, smell something of *Acid*: In an *Acid Ruftus* it is more evident, and also in *Acid Urine* and *Rheums*, and also in *Sub-acid Spittle*; yet we can meet with no Humour naturally and purely *Acid* in *Animals*; the most purely *Animal*

mal Acid appears in *Butter-milk*; which is therefore very cooling in *Fevers*. The Oily Part of the *Chyle* in *Animals* mixes with the *Acid*, and obscures it, as in *Milk*. And the *Volatile Salts* in the *Blood* absorb the *Acid*, as appears by the Fixedness of the *Salt* in *Urine* and *Blood*, being *Salso-acid*.

All *Volatile Salts*, as well as *Fixt*, retain some *Acid*, from whence they have their *Salt Taste*. They are also easily united with *Oyls*, as is manifest in the *Oyls* of *Vegetables* and *Animals*; none of which are free from a *Salt*, and some *Acidity* adhering to the *Oyl*.

In a production of a *Fixt Salt* by *Fire*, the crude *Acid* of a *Plant* joyns with some *Vitrious Earth*, and unites into a *Salt*. So in the production of a *Volatile Salt*, the Oily *Acid* of the *Plant* carries with it some *Earth*, and unites into a *Volatile Urinous Salt*. *Sulphurs* and *Oyls* being of themselves naturally *Volatile*, piercing, and *Sub-acid*, want only an *Earthy Part* to give them a *Salt Taste*. Such a mixture is made in the production of a *Volatile Salt*, from *Antimony*, *Nitre*, *Tartar*, and *Flints*; and in the Soot of *Woods*, which yields a great *Acid Fume*, by which it is offensive to the *Eyes*. And

a *Volatile Salt* is produced by that *Acid* and *Vegetable Oyl*; and some light *Earthy* Parts mixt with them. A *Volatile Salt* may be distilled from *Oyl* of *Turpentine*, by addition of the *Salt* of *Tartar*. *Volatile Salts* are either produced by a violent *Fire*, by which a mixture of *Oily Acid* is made with *Earth*, or else they are produced by Putrefaction: So from *Blood* and *Urine* Putrefyed, a greater quantity of *Volatile Salt* and *Oyl* may be drawn, than can be by a violent *Fire*, without Putrefaction.

A *Volatile Urinous Salt* may be distilled from *Vegetables* Putrefied; as *Mint*, *Wormwood*, *Scurvy-Grass*, &c. And these *Vegetable Urinous Salts* are much of the same nature, and differ as *Animal Salts* do, by their *Fetid Oyl*.

Lac.

Milk: It is Sweetish in Taste, and is that *Chyle*, out of which the *Serum* of the *Blood* is immediately made: It consists of much *Water* to dilute the *Blood*, and to supply the defect of the *Lympha* in *Hectical* and *Scorbutick* Persons; and also of much *Oily Butter*, which lubricates all passages, and supplies Fat for the *Animal*; and also of *Caseous Fibers*, which are the immediate nourishment of the Solid Parts.

Asses

Asses Milk is the thinnest, *Goats* is the next, *Cows* has the most *Butter* and *Caseous Parts*: *Womens* is most agreeable to our Nature, having had a like Digestion, and past a Circulation with the *Blood*, most like to our Natures.

Cheese smells like Sweat, tastes Clam-Caseus. my and Gummy, if new; but the very old has an Acrid, Bitterish, Biting Taste; for which it has been used in Medicine, for the *Tophi* in the *Gout*: by the Clamminess it is Conglutinative.

Mouldy Cheese tastes like Moss.

Rotten Cheese is Fryable, and full of *Insects*; of a *Livid* Colour, offensive Smell, and quick Pungent Taste.

Old Cheese distilled with quick *Lime*, yields a *Volatile Salt*.

Butter has the nature of *Oyl* or *Fat*, Butyrum Mollifying and Anodyne; good in the *Stone*, and for expectoration by the *Oyliness*.

Fat of Animals is of the nature of *Adeps Ani-Oyl*, mollifying and easily melted. *Adeps malis* & is more like *Wax* or *Gums*, more difficult-ly melted. *Medulla* is like *Pinguedo* in Vertue. The Fats or Greases of the most
Fetid

Fetid Animals, viz. *Adeps Urſi*, *Taxi*, *Cati*, *Vulpis*, *Hominis*, *Canis*, *Viperæ*, as also that of the Males, and that which has been longest kept, is most mollifying, and dissolving by the *Fætor*.

*Sperma
Ceti.*

Sperma Ceti: It has an Oily Fat Taste, and is used in *Bruises* and *Pectoral Diseases*, outwardly and inwardly, as Oyl, lenifying and making slippery; but because it has a greater Digestion by being a part of an *Animal*, it dissolves more than common Oyl. And it may have some Vertue from the Preparation, with a *Lixivium*. It does not seem to be the Brain of any *Animal*: It is best given with Oyl of Sweet *Almonds* and *Sugar*.

*Caro Ani-
malium.*

Vipers-Flesh smells Fetid; and I have, upon the opening of the body of a *Snake*, observed it to stink intollerably; which *Fætor* depends on an higher degree of Fermentation in that *Animal*. *Vipers Wine* cures the *Leprosie*, but causes *Thirst*. The Broth of *Animal Flesh* contains a Mucilaginous Juyce, which was not perfectly assimilated to the *Animal*: It is very nourishing, and easily digested; but by the latent Oily *Volatile Salt*, it is too high a nourishment for Persons in *Fevers*.
That

That Flesh is most easily digested, which is least Fibrous and Tough; as is the Flesh of Young and Fat Creatures. We ordinarily eat *Mustard* with *Beef*, to help Digestion; for by the *Vinegar* and *Volatile Salt* of *Mustard-seed*, a mixt *Salt* is produced, which helps Digestion and Fermentation.

The Slimy Parts of *Animals* are very hardly digested, and are crude, like Mucilages in *Plants*. But Dr. *Lyster* gives a remarkable Instance of *Glue*, dissolved and putrefied, which thereby grew thin, and lost its Viscidity. So that *Slimes* are digested by Fermentation; and all other *Flesh* after the same manner.

The *Liver* of an *Eele* is commended Viscera A-
in difficulty of Labour, and is given in nimalium.
Powder. In the *Liver* there are a great
many Bile-Vessels; from whence the *Li-*
vers taste Bitterish, and smell Fetid. From
the *Bile* therefore, it has this Vertue, as
all other *Livers*, given for Fits of *Convulsi-*
ons. And *Mad-Doggs Liver*, is given a-
gainst *Madness*. Each of the *Viscera*
contains something of the Humors they
separate. So the *Lungs* have a Pituifose
Slime; the *Brain*, the *Pancreas*, and most
of the *Glandules*, the same. The *Stones*
have

have a *Fætor* from the *Semen*; which are therefore used in Powder, in hard Labours and as *Anti-hystericks*.

Lien.

The *Spleen* has a Sliminess from the Juyce, separated by it: So that the same Vertue is to be given to each of the *Viscera*, as to the Humors separated by them; which Humors, being in an Healthy state, may help the separations in each particular *Viscera*. So all the Medicines which taste like *Choler*, are properly called *Hepaticks*. And all other Medicines resembling the Taste of other Humors, are *Splenetic*, *Diuretick*, &c. respecting the separation of that Humor. The inward Skins of the *Gizzards* of *Pidgeons*, &c. have the Taste of the *Gall*; being Bitter, Sweet, Sub-acrid, Fetid and Slimy: They are good *Diureticks*, *Stomachicks* and *Hepaticks*.

All Salts tasting like *Urine*, are *Diuretick*; and the *Kidneys* have a *Fætor* from the *Urine*, and may be *Diuretick*.

Pulmo Ag- The *Lungs* of *Animals* yield, in distilla-
 ninus, &c. tion, a Slimy Water for *Hæcticks*, with
 some smatch of a *Volatile Salt*; a Slimy
Lympha being separated by the Glandules
 of it.

Muci-

Mucilaginous Parts of Animals: The *Partes Animalium Mucilaginosæ* Decoction of *Horns, Bones, and Cartilaginous Parts*, as the Feet of *Animals*, is Mucilaginous, and Emollient in *Baths and Clysters*; and, by boiling high, becomes a Gelly. *Snails* have a Slime, which runs into a Syrup with *Sugar*; if they be boiled in *Milk*, they give a cold Slimy Nourishment for *Hedicks*; but the Slime is destroyed by distillation, and becomes offensive and hurtful. *Snails* will conglutinate a *Wound*, and discuss *Tumors*, and stick fast to the Skin.

Fresh Earth-Worms have a Sliminess in them, good for *Consumptive Persons*, if boyld in *Water-Gruel*. The White of an *Egg* is Slimy, and tempers *Sharp Humors*; and outwardly cools *Inflammations of the Eyes*. I distilled a *Volatile Urinous Salt* from it.

Froggs-Spawn is Slimy, cools inwardly and outwardly.

The Yelk of an *Egg* is Oyly, and yields an *Oyl* fryed and distilled. *Turpentine*, and *Volatile Oyls* mixt with it, will easily dissolve in *Water*.

Ichthyocolla is very conglutinative outwardly, in *Ruptures* and *Wounds*.

Blood dryed to Powder is very glutinative, and stops *Bleeding*, and heals *Wounds*;

Wounds; therefore warm *Pidgeons Blood* is put into the *Eyes*. A distilled *Water* is made out of *Swines-Blood*, for to cool and dilute the *Hectical Blood*.

Blood, by its *Salt*, cleanses the *Hands* and *Face*. The *Spirit of Blood* is good for *Convulsion-Fits*; for which also, *Blood* taken fresh into a warm *Dish*, out of the *Arm*, to the quantity of four ounces, and immediately drank, is used to cure the *Fits*, by its *Salt*, and a new *Digestion*.

Partes Ani-
malium
Officæ.

The *Bones of Carps, Perches*, the *Jaw* of a *Jack*, the *Tooth of a Boar*, the *Hooffs* of an *Elke, Horse, Ass*, &c. *Man's Bones* and *Skull, Bulls-Pisle*, &c. The *Vertues* of these *Medicines* depend on the *Earthy Part*, which absorbs *Acids*, and on a *Volatile*; whereby they are *Fetid* and *Anti-hysterick*; all the *Parts of Animals* yielding a *Volatile Salt* and *Oyl* in distillation.

Insecta.

Toads, Earth-Worms, and *Wood-Lice* dried, have a strong *Fætor*, by which they are *Medicinal*. All *Insects* yield a *Volatile Salt* by distillation; excepting *Ants*, which yield an *Acid*, which is *Di-uretick* and *Venereal*; but this *Acid Spirit* may be turned into an *Urinous*, by addition of *Calx viva*.

Kermes

Kermes are Bitterish, and of a great *Kermes*.
Fragrancy; and therefore Cordial. Out
of these Insects, *Confectio Alkermes* is made.

Gall mixt with Hot-Water, smells Odor Ani-
Sweet and Fragrant, like *Musk*; which malium.
Smell is observable in a *Piggs-Eye*, roasted.

Every *Animal* has a particular Scent;
which Smell is communicated to *Oyl*, by
the boyling of the *Flesh* in it; or otherwise
is perceived in the distillation of the fresh
Flesh, in a close Still; or may be drawn
from the Dungs of *Animals*.

A *Cow*, *Veal*, or *Sheep*, have a mode-
rate and Milky Smell. A *Fox*, *Horse*,
Catt, *Dogg*, or *Fitchet*, have a very Fetid
offensive Smell. A *Martin* killed, smells
Musky; and a *Kings-Fisher* is also said to
smell so. *Salt-Fish* has a strong offen-
sive Smell. *Shell-Fish* and *Salmon* have a
different Smell, resembling the *Semen*;
and therefore may be a *Venereal* Diet.
Ducks, *Geese*, *Swans*, and divers other
Wild-Fowl, have a *Moorish* Smell and
Taste, and are crude and less wholesome
Diet. All *Fetid Animals* have an offensive
Flesh: and by the Smell and Taste, *Animals*
are chose for Diet, or left to Medicine.

The Taste of the *Flesh* of *Mutton*, *Veal*,
&c. is Fresh, Stringy, Watry; the Taste
of

of the Enterals, is more Soft and Slimy and have an unpleasant Smell. Each particular sort of *Animal*, has a particular Scent agreeable to the *Food*, and the Degree of the *Digestion* of it; and from the particular Odor, a particular Vertue may be inferr'd: But because all these different Scents depend on an *Animal* Volatile Oyl and Salt, they differ but in Degree the one from the other: Fetid *Animals* being accounted *Medicinal*; but the moderate Smells shew what *Animals* are fit for *Food*.

Excremen-
ta Animalium.

Choler is Bitter, Sweet, Slimy, Sub-acrid, and very Nauseous to the *Stomach*: It is us'd for an *Ophthalmick* Cleanser; and so is the distill'd *Water* of it. The *Bile* of *Birds* is more Acrid, and less Viscid, than that of *Quadrupedes*. The *Bile* of a *Bull* opens the *Piles*. The *Bile* of a *Puppy* is given inwardly for *Convulsion-Fits*. *Tincture* of dry'd *Bile*, with *Spirit of Wine*, is us'd for Noise in the *Ears*. The *Wax* of the *Ears* is like *Choler*. The stronger *Fætor* any *Animal* has, the stronger is the *Bile*.

Urine is of a Salt Taste, and quick Lixivious Odor: The Salt of it is like *Sal-Ammoniack*; and therefore *Urine* is
Dissol-

Diuretick, good to wash *Scald Heads*, *Putrid Ears*, and *Oedematous Leggs*; and inwardly is us'd in *Pains of the Stomach*, *Colick*, and *Stone*, in *Putridness* of the *Gums*, and *Acidity* of the *Saliva*.

Dungs of Animals have an *Acid*, from the *Meat* Fermented in the *Stomach*; and a *Bitterness*, from the *Bile* coagulate by it; and also an *Oylinefs* or *Fætor*, from the *Volatile Oleose Salt* of the *Aliment* opened by a *Fermentation*: Therefore *Dungs* differ according to the differences of *Meat*, and the different Digestions of *Animals*. To which I must add, That *Sea-Salt* is mixt with the *Dungs* and *Urine* of those *Animals*, who eat *Salt-Meats*.

Dungs cleanse by their *Choler*; and by their *Fætor* are discussing: By the Relicks of the *Meat*, (which is the Substance of the *Dung*, and) which has undergon a Digestion, and also by the *Stomachick Lympha*, which promoted the *Fermentation*, and remains mixt with the *Dung*, they may rectifie the Ferment of our *Stomachs*.

Horse-Dung is us'd in *Pains* and *Stitches*, infus'd in *Beer*, or distill'd in *Milk*, with *Antiscorbutick Herbs*.

Album Græcum is Gritty and Fetid: By the *Fætor* it discusses; and is a good dry-

H

ing

ing *Medicine* in malignant *Ulcers*; and particularly in *Dysenteries*, it is given in *Milk*: By the Grit and Unctuousness it corrects the sharp Humors. Outwardly it is us'd to the *Throat*, as a Fetid *Discutient* in the *Quinsie*.

Asses-Dung is an astringent in *Hæmorrhages*.

Goats-Dung is very Fetid and Discussing.

Cows-Dung is moderately Discussing, and Anodyne in the *Gout*.

Sheeps-Dung is accounted good in the *Jaundice*; for which the *White Dung* of *Hens* is us'd.

Pidgeons-Dung is us'd in hot *Plasters*.

The *Stercora* of the *Carnivorous* are most Fetid.

Zibethum. *Civet* is of a strong Odor; whereby it is outwardly Discussing: A little of it is Sweet-scented; but Fetid in a great quantity; and the more Fetid, the more pure it is.

Moschus. *Musk* is of a burnt sweet Odor; whereby it acts on the *Animal Spirits*, in giving them a quick Motion: And therefore is Cordial, and good in the *Hickcough*, to three Grains in *Pills*. *Musk* has a Bitterish Taste.

Castor

Part IV. of Animal Medicines.

Castor is Acid-Bitterish in Taste, and of a strong Fetid Scent in Powder, Tincture, and Spirit: It is Hysterick by the strong Smell, giving a different Agitation to the Spirits, from that irregular Motion in Fits; and abounds with a volatile Salt, and Fetid Oyl.

Rennet: I took a piece of the Calves Coagulum Stomach, which was dry'd and salted; this being washed, was laid in fair Water all Night: By this Water I coagulated Milk. I could not find any Acid in this Rennet, by tasting of it; but only a Sliminess. One Spoonful of it would coagulate more Milk, than so much Vinegar could. I put some Spirit of Sal Ammoniack into it, which gave no Effervescence, nor Precipitation: But, notwithstanding, thirty Drops of it, in a little quantity of the Rennet, curdled Milk. The only Argument of any Acidity in the Rennet, was, That it soon dissolved Filings of Steel, and, in a few Hours, gave a Tincture with Galls.

This Acid in the Rennet adheres to the common Salt; and is thereby made less sensible to us: For the Rennet is a little Salty, from the common Salt with which the Bag is salted. And the Lympha of

the *Stomach* is naturally *Sub-acid*, though not much observ'd by our Tastes, because it will fix *Quick-silver*. Such is the *Acid* of *Rennet*; in the making of which, the curdled *Milk* is thrown away, and only that Part of the *Stomach* us'd, which is next the *Guts*; which is lined well with the thick Coat of *Glandules*.

The other Parts of the *Calves Maw* dried and salted, will not so well curdle *Milk*: This *Rennet* I distill'd; but could not find, that the Liquor which came over, would coagulate *Milk*.

Rennet would not coagulate *Gall*, or the *Serum* of the *Blood*: But *Milk* is coagulated by *Sack*, and strong *Ale*; in which is no apparent *Acid*, though it be coagulated by it.

I cut a piece of a fresh *Calves Maw*, only washed clean from *Milk*, and not salted; this was boyl'd a little in a small quantity of *Milk*, which I set by at least 12. Hours: but this fresh *Maw* did not at all coagulate the *Milk*. Therefore I thought the common Reason, which supposes the Coagulation of *Rennet*, to depend on the coagulated *Milk*, from whence it may have some Sowreness, must be wholly rejected; because the fresh Bag has the greatest *Tincture* of *Acid* from the *Milk*,
and

and yet will not coagulate *Milk*. And because the *Acid-Lympha* is most plentiful, and strong in the fresh *Maw*, and yet that will not coagulate *Milk*. I therefore doubted of my own Opinion I have mention'd; and rather believe, that the Coagulative Vertue in *Rennet*, depends partly on the *Salt*; whose *Acid* may be loosened, and in part separated by a kind of half Putrefaction by the *Maw*: The Putredinous Smell of the *Rennet-Bag*, and the Nauseous Taste of the *Rennet*, (from whence *Cheese* has that offensive Smell and Taste) are some Proof of the *Putrefaction*. We observe, that some *Acid* may be separated from common *Salt*, when *Quick-silver* is sublimed from it; and more evidently by Distillation of *Spirit of Salt*, which coagulates *Milk* like *Rennet*.

What the *Fire* produces suddenly, may by *Digestion* or *Putrefaction*, be attained: So *Volatile Salts* of *Plants* are produc'd by a violent *Fire*; and the same is also produc'd naturally in *Plants*, by their particular *Digestions* and *Fermentations*, which are tendencies to *Putrefaction*.

Out of *Astringents*, the *Fire* immediately separates an *Acid*; and the same happens, when the *Astringent* Juyce in

the Roots of *Sorrel*, are better digested in the Leaves; in which is an evident *Acerbity* or *Acid*: But this *Acidity* is not sufficient to curdle *Milk*, but is only one Part of a *Ferment*; which, as I have described it in the Discourse about *Fermentation*, ought to contain an *Oyl*, and an *Acid*: This *Acid* is from common *Salt*; but the *Oily* Part, from the Putrefy'd *Membranes* of the *Calves Stomach*, which smells offensively, and gives a strong Taste to *Cheese*. *Rennet* therefore acts not like an *Acid*, by coagulating the *Milk*; but like a *Ferment*, in disposing *Milk* to a *Fermentation*; by which *Milk*, which is long kept, coagulates: For, upon the adding of *Rennet* to *Milk*, it is not immediately curdled, which is the Effect of an *Acid*; but after some time standing; and often the *Milk* is warmed, to hasten the *Fermentation*. From this *Fermentation* *Cheese* receives from *Rennet*, it is thought to help *Digestion*, as all things once fermented, do. The *Factor* of *Cheese* is an Argument, that the *Milk* was fermented out of which it is made.

The End of the Fourth Part.

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:
OR, THE
Touch-stone of Medicines, &c.

The Fifth Part.

Specificks Classed,
As they are distinguisht
by their TASTES, and
by the HUMORS,
which they correct.

The PREFACE.

I Thought it very useful, for my own
Practice, to reduce *Plants* into *Spe-*
cifick Classes, and distinguish them
by their Taste and Smell; for by
them I can best judge, which *Medicine* is
most suitable to the Nature and Taste of

the Humor producing the *Disease*, and also to the Constitution of the *Patient*. By these *Classes* I can readily find the *Medicines* of such a particular Taste, suitable to my Intention; and in the same *Tables* I have set no *Medicine*, which Experience has not long approv'd of, as *Specifick* for the *Disease*. I will only give one Instance, for the better illustrating the Design of these *Tables*: I want an opening *Hepatick* in a cold Constitution; in the *Table* of *Hepaticks*, I find the *Bitter-Acrids* to be the most suitable Taste for that purpose, both as *Bitter* and *Acrid*. I find also, under that Taste, ranked *Celandine* and *Turmerick*, with others of that Taste; which Experience has approv'd of, in the *Disease* I here mention'd.

I might give as many Instances, as there are *Classes* and *Tastes*; but I will only observe, That, by this Method, the *Patient* may judge, whether proper *Medicines* are prescribed; and the *Physician* may, by these *Tastes* of his *Medicines*, give a good and sensible Account of the Vertue of his *Medicines*, and the Effects to be produced by them.

I have set down, first, the *Class* of *Acids*, and mixt *Acids*, and the *Class* of *Acid* Aborbents, as generally mention'd in every

every *Class*: I have set down those *Medicines*, which evacuate the Cause of the *Disease*: And after that, the *Classes* of Hot and Cold *Alterers*, and those that help some *Symptom*: Outward *Medicines* are mention'd last. I find many *Purgers* to have three Tastes; but because many of them are brought dry to us, they are not so sensible to the Taste. In *Dia-gridium*, *Jalap*, and *Cambogia*, the Acrid Taste is most obscure; and therefore, I judge of them by Analogy to the rest that are Resinous, as *Turbith*: And if I had these *Purgers* fresh in the *Plant*, I could easily demonstrate those *Tastes* which give them their Purgative Vertue; which I conclude to be *Acrid* joyn'd to *Gum*, *Resin*, or Gummy *Mucilage* in *Cambogia*.

I find many *Plants* to have above two or three Tastes; but I seldom mention more than two, because they contain the chief Vertues, and other Tastes are very weak; and if more should be mentioned, the *Classes* would be too many to be useful. I have referred some of the *Dispensatory* Compositions to particular *Classes*, as well as they can be done; but the Ingredients are so many, and so contrary, in some Compositions, as to give no certain

tain Taste to the whole Mass; which makes their Vertues less known, and what is to be ascribed unto them. But by this method of Tasting, all Compositions will be best examined and amended.

I will, upon this occasion, give this advice, to imitate Natures Composition of Tastes, in *Simple Medicines*.

First, To Compound those Tastes she does, and no other.

Secondly, Not to Compound above three or four Tastes: For when we find so many naturally Compounded, they produce a Nauseous Purging Medicine.

Thirdly, If possible to use *Simples*, according to that true assertion, *Dolus est uti Compositis, ubi Simplicia sufficiunt*. But if Composition be necessary, let us Compound but two or three Tastes: So that the whole may have some certain sensible Taste, which is necessary for curing the Disease.

I cannot but reflect on the humor of jumbling many Tastes together, and often changing of Medicines, as the occasion of unsuccessful Practice; for by that means no certain Quality, or Taste of Medicine is used, to conquer the contrary Nature and Tastes of Humors, which have a particular preternatural state in Diseases;

Diseases: And a contrary Quality and Specifick Taste in the Medicine, is required to alter and reduce them to a natural Temper; or else a Medicine of the same Taste as the Humor, is necessary to perform the Office of that Humor, and to help its separation; which sort of Medicines I have called *Friendly Specificks*: and the *Alterers* I call, *Common Specificks*. *Vid.* Part I. of *Specificks*.

The *Physician* is to choose a suitable Taste to the Constitution of his *Patient*, as well as to the Nature of the Disease, to continue it a due time, and to give it in a full Dose; which I conceive to be Rational Practice: For whosoever knows not the Taste of the Humors in Mans Body, nor understands the prevailing Taste of his Medicine, cannot deserve the name of a Judicious Practitioner; and generally has no Success in his business.

I do believe, the Observation of the differences of Taste, and the Contrarieties of one to the other, will give a great Improvement to the Practice of *Physick*, and the knowledge of the preternatural state in Diseases. For Instance, If *Acids* abound, *Bitters* are necessary to correct them; and if *Bitterish Acid Aromatics* cure *Cephalick* Distempers, then the Pec-

cant

cant Quality of the *Succus Nervosus*, is inclining to an *Acid*, and to Stagnation; both which, the Taste mentioned corrects. And it ought to be observed, how Humors in the Body are mixt in some complicate Distempers, and therefore require mixt Medicines; in which, both Tastes seem equal; as *Bitter-Astringents* in *Fevers*.

Most Authors, under the name of one *Specifick*, have Classed Medicines of very different Natures; which I have here endeavoured to distinguish by their several Tastes: And that the Use of each particular Taste, in the altering of the Humors, may be observed, I have mentioned, in the following *Classes*, the Peccant Quality of the Humor, as requiring such a contrary Taste. I will now give a *Class* of all the Tastes I have observed in the *Materia Medica*. The Ingenious Dr. *Grew*, in his *Anatomy of Plants*, hath computed all the possible Varieties of Tastes in *Plants*, amounting to 1800. But I thought it not necessary to make some nice distinctions he has taken notice of; and therefore, under the name of *Acrid*, I have comprehended *Hot*, *Biting*, *Pungent*, *Penetrant*, being they all depend on a *Volatile Salt*, more or less *Oleose*; and each particu-

particular *Acrid* is distinguished by its Composition with other Tastes.

These following Tastes are all the Varieties I have observed in these Tables; tho' I have mentioned more, as appears in the last Part of this Essay.

The Catalogue of Tastes.

First, Dry Earthy Tastes are,

1. **I**N *Woods, Husks of Fruit, and their Stones.*
2. *In Common and Precious Stones.*
3. *In Animals; as, Horns, Bones, Hoofs.*
4. *In Minerals; as, Iron, Lead, Gold, Silver.*

Secondly, Watrish Tastes.

1. *Crude-Watry.*
2. *Watry Mucilages.*
3. *Mealy Mucilages, or Clammy Gummy Mucilages.*
4. *Earthy Mucilages.*

Thirdly,

*Thirdly, Acid Tastes,
And Astringents, which depend on an
Acid mixt with Earth.*

1. *Acid-Watry, or pure Soure Tastes.*
2. *Acid-Bitter.*
3. *Acid-Acid.*
4. *Sweet Spirituous Acid.*
5. *Acid-Astringent, or Acerbe.*
6. *Earthy Astringents, or Rough Tastes.*
7. *Styptick, Bitterish, or Austere.*
8. *Styptick, Sweet.*
9. *Styptick, Aromatick, or Bitterish.*

Fourthly, Bitter Tastes.

1. *Watry-Bitters.*
2. *Bitter-Sweet.*
3. *Strong-Bitters, with an Aromatick Smell.*
4. *Bitter-Acrids, with a Dead-Nettle Smell.*
5. *Bitter-Acrids, without any considerable Smell.*
6. *Laurel, or Bitters Astringent.*
7. *Elder-Bitters, or Bitter-Slimy.*
8. *Terebinthinate Bitter-Astringents.*

And these are either purely Terebinthinate, or else Fetid or Aromatick Terebinthines.

9. *Bit-*

9. *Bitterish-Slimy-Astringents*, with a
Dead-Nettle Smell.

Fifthly, Aromatick Tastes.

1. *Bitterish-Acid*.

2. *Sweet-Acid*.

And some of both these are extremely
Acid.

Sixthly, Fetid Odors, joyn'd with divers
Tastes, and are contrary to Aromaticks.

1. *Bitter-*

2. *Acid-*

3. *Bitter-Acid-*

4. *Mucilaginous Fetids*, or *Narcoticks*.

} *Fetid*.

Seventhly, Acid Tastes.

1. The *Cress* Tastes.

2. *Acrids*, with a rank Smell and Taste.

3. *Exulcerators* are,

1. *Watry*.

2. *Oily, Milky, Gummy, Resinous*.

3. *Corrosive Fetids*; which are *Vene-
neate*; as *Napellus, Aconitum*.

Eighthly,

Eighthly, Sweet Tastes are,

I. Pea-Tastes ; which are,

- 1. Sweet Pea-Taste, Slimy.*
- 2. Bitterish Pea-Taste, Slimy.*
- 3. Rough Pea-Taste.*
- 4. The Acrid, Bitter, Slimy Pea-Tastes.*

- 2. Watry Crude Sweet Tastes.*
- 3. Sweet Acrids.*
- 4. Sweet Oily.*
- 5. Sweet, Sub-acid Slimy.*
- 6. Sweet Mucilaginous.*

Ninthly, Nauseous Tastes of Purgers.

- 1. Bitter, Slimy, Sub-acrid, Astringent.*
- 2. Bitter, Sweet, Slimy, Sub-acrid.*
- 3. Bitterish, Sub-acrid, Slimy, or Strong, Bitter, Slimy, Acrid.*
- 4. Fiery, Gummosc, or Resinous Acrids.*
- 5. Extreame Bitters Slimy, with Caustick Acrimony.*

Tenthly, Saline Tastes.

- 1. Vitriolick, Sweet, Styptick.*
- 2. Aluminous, Sub-acid, Rough.*

3. Nitrosc,

3. *Nitrose, Cool, Bitterish, Pungent, and Saltish.*
4. *Salso-acid, or Muriatick.*
5. *Sulphureous Acid.*
6. *Sweet, Sub-acid, Spirituous, Spiritus Salis Dalcis.*
7. *Pungent Salt, with a quick Urinous Smell.*
8. *Pungent Salt, with a weak Lixivious Smell.*
9. *Salt, Acrid, Hot, Aromatick, or Oily Volatile Salts.*

Eleventhly, Unctuous Tastes, as Fats and Oyls; which are either,

- | | |
|------------------------------------|----------------|
| 1. <i>Crude Slimy</i> | } <i>Oyls.</i> |
| 2. <i>Rank Bitterish</i> | |
| 3. <i>Penetrant Acrid Chymical</i> | |

The Names of *Specifick*
Classes, and the Expli-
cation of their Names
by the Humors that
are to be corrected.

§.I. *Internal Medicines.*

I.

E *Vacuators* of the *Morbifick* Humors,
are,

First, *Purgers*; which are either,

1. Of *Choler*, or *Cholagogues*.
2. Of thin *Serum*, or *Lympha* from the Blood; *Hydragogues*.
3. Of *Pituitose Serum*, from the *Glandes* of the *Guts* and *Pancreas*; *Phlegmagogues*. Or,
4. *Melanogogues*; which are the gentle sort of *Phlegmagogues*, purging *Choler*; in which is contained a slimy Humor, separated by the *Spleen*: And therefore all *Melanogogues* have a bitter slimy Taste, like *Choler*, and the ropy *Splenetic* Humor.

Secondly,

Secondly, *Vomitories*; which are gentle, moderate, or vehement; and evacuate from the *Stomach* the same Humors.

Thirdly, *Diureticks* evacuate by *Urine*.

Fourthly, *Diaphoreticks* evacuate by *Sweat*.

Fifthly, *Emmenagogues* drive out the *Menses*, or *Birth*.

Sixthly, *Vesicatories* evacuate from the *Glandules* of the *Skin*, by *Blistering*.

Seventhly, *Sternutatories* evacuate from the *Nose*, by *Sneezing*.

Eighthly, *Salivatories* or *Masticatories* evacuate by *Spitting*.

Hot or Cold *Alterers*;

II

First, Of *Choler*; and these are call'd *Hepaticks*.

Secondly, Of the ropy Glandulous Juyce of the *Spleen*; which are *Spleneticks*.

Thirdly, Of the salt *Serum*, or *Lympha* of the *Blood*; which are *Arthriticks*.

Fourthly, Of the whole Mass of *Blood*; and these respect *Sanguification*, and the *Circulation* of it; as *Antiscorbuticks*.

Fifthly, Of the *Chyle*; and these respect its *Fermentation* and *Distribution*; and are call'd *Stomachicks*.

I 2

Sixthly;

Sixthly, Of the *Succus Nervosus*; and they also respect its Motion: These are *Cephalicks*, *Hystericks*, and *Nervines*.

Seventhly, Of the Motion of the *Blood* and *Spirits*; and these are *Cordials*.

Eighthly, Preservers of the mixture of the *Blood*, and Expellers of *Poyson*; and these are *Alexipharmacks*.

Ninthly, Expectorators and Correcters of the *Lympha* flowing from the *Glandules* in the *Lungs*; and these are *Thoracicks*.

Tenthly, *Venereals* respect the *Semen*, and its defect, or too great Evacuation; which are *Anti-venereals*.

Eleventhly, *Ophthalmicks* respect the Humors of the *Eye*.

Twelfthly, Breeders of *Milk* respect the *Glandules* of the *Breast*, and Nourishment of the *Woman*.

Thirteenthly, *Anthelminticks* are Medicines against the *Worms*.

Fourteenthly, *Narcoticks* produce Sleep, and allay Pain.

§. II. External Medicines.

First, **A** *Nodynes*, to allay Pains.

Secondly, *Emollients*, to soften, mollifie, and suppurate *Tumors*.

Thirdly, *Resolvents*, to discuss *Tumors*.

Fourthly, *Repellents*, which drive back Humors, and cool the Heat.

Fifthly, *Vulneraries* in *Ulcers*; which are,

1. *Digestives*, to ripen Matter.
2. *Cleansers*, to deterge it.
3. *Sarcoticks*, to help the breeding of Flesh.
4. *Epuloticks*, to skin the *Ulcer*.

Sixthly, *Vulneraries* in *Wounds*; as,

1. *Conglutinatives*.
2. *Stoppers* of *Bleeding*.

Seventhly, *Cathæreticks*, or Eaters of proud *Flesh*.

Eighthly, *Psyllothra*; which are Takers-off of the *Hair*.

Ninthly, *Cosmeticks*; which are Cleaners of the *Face* and *Skin*.

Tenthly, Of *Poyson'd Wounds*; and of *Animal*, *Mineral*, and *Vegetable Poysons*.

The First CLASS.

Of Specifick Laxatives, and Purgers, and their Correctors.

§. I. Of Laxatives, without any con- siderable Stimulus.

I.

Diluters, which moisten much:

Aqua Communis.

Serum Lactis.

Lac Ebutyratum.

Decoctum Hordei.

II.

Mucilaginous *Laxatives*, or Emollients,
making the Guts and Meat Slimy:

Malva.

Mercurialis.

Atriplex.

Beta.

Brassica.

Brassica.
Spinachia.
Lactuca.
Violæ folia.

Oily Laxatives :

III.

Butyrum.
Oleum Commune, Amygdalarum dul-
cium.
Nuces recentes Oleosæ.

Laxatives Sub-acid, Sweet, and Slimy :

IV.

Pruna.
Poma recentia dulcia & Syrupus.
Pyra dulcia.
Cerasa.
Passulæ.
Uvæ dulces.
Tamarindi.
Baccæ Sambuci & Syrupus Mororum,
Fragorum.
Vina dulcia.

Laxatives, very Sweet and Mucilaginous.

V.

Radices Glycyrrhizæ, Polypodii, Graminis.
Manna, Mel, Cassia, Saccharum, Cere-
visia recens.

VI.

Compound Lenient Purgers:

Diaprunum Simplex.

Diacassia cum Mannâ.

VII.

Absterfive Purgers, which gently stimulate, and correct the *Acid* or *Acrid Choler* in the *Primæ viæ*.

1. The *Terebinthines*, which are *Bitter, Gummy*, and *Acrid*; by which they Stimulate a little, and keep the Body Laxative.

Terebinthinæ omnes.

Balsamus Peruvianus, Lucatellæ.

2. Gummose, Bitter, Fetid *Acrids*, Stimulate, like *Turpentine*.

Sagapenum, Bdellium, Ammoniacum.

3. Nitrose, Sulphureous, Aluminous Waters purge very well, and they taste Bitterish and Brackish.

Aquæ fontanæ Sulphuræ. Sulphur vivum.

Flores Sulphuris are a little Purging.

4. *Fixt*

4. *Fixt Salts* are *Laxative*, by their Stimulating Acrimony, and by their Effervescence with *Acids* in the *Stomach*.

5. *Acids* are *Laxative*, which are mixt with *Earths*.

Tartarus & Cremor.

Sal gem.

Sal commune & aquæ salsæ, Alumen, Nitrum.

6. *Acids* mixt with *Salts*, are *Laxative*.

Tartarus vitriolatus.

Sal Ammoniacum.

Polychrestum. Ol. Tartari per deliquium Nitratum.

7. *Acids* mixt with *Minerals* Stimulate.

Lapis Lazuli.

Lapis Armenus.

Vitriolum Martis.

Nitrum Antimoniatum.

The Medicines in this, and the former *Class*, make little Evacuation without an addition of other Purgers. ●

§. II. Of

§. II. Of Purgers.

Gentle Purgers; which are accounted *Cholagogues*, do not only irritate, and carry the Mass of Nourishment out of the *Guts*; but have a stronger Irritation, causing more violent Peristaltick Motions; and the *Vesica Biliaria* is thereby Evacuated. The Purgers have a Nauseous Bitterness in them, like *Choler*, which goes into the Veins, and separates the *Choler* through the *Liver*, as other *Bitter-Acrids* do; whence they act both as *Alterers*, and also irritate the Intestines to Purge.

- I. *Cholagogues* are Bitter, Slimy, Sub-acrid, and Astringent; which stops the Purgative Faculty for acting too violently.

Radices lapathi acuti, Rhabarbari Anglicani, Lapathi Communis.

Rhad. Rhei, which loses the *Acrid* by boyling; and, it is said, That fresh *Rhubarb* flies quick into the *Nose*.

Cortex Berberum tastes Bitter, Slimy, Pungent, and Styptick.

Myro-

Myrobalanæ Citrinæ are Bitterish, Slimy, and Styptick.

Rad. Polypodii are Sweet, and Styptick; The Leaves have a Bitterness; and *Fernes* have a Latent Acrimony, discernible in the Roots of some of them.

Rosæ Damascenæ are Bitter, Slimy, and a little Acrid-Astringent.

Flores Persicorum are Bitter, Slimy, Astringent, and Sub-acrid.

The Nauseousness of *Cholagogues* is best corrected by *Acids* and *Aromaticks*.

Compound Cholagogues.

All the *Laxatives* and *Abstersives* before-mentioned,

Syrupus Rhabarbari, Rosarum, florum Persicorum.

The *Melanagogues* seem to be the gentle *Hydragogues*: By the Bitter, they Evacuate *Choler*; by the Slimy Sub-acrid, the pituitous *Serum*. They are Bitterish, Sub-acrid, and Slimy, as *Sena*, *Sem. Carthami*, *Decoctum Senæ*. II.

The *Pblegmagogues* are stronger Bitters, Mucilaginous, and have a greater *Acrid*; the III.

the Bitter makes them *Cholagogues* also: The great *Acrid* and Mucilage more agree with *Phlegm*, Stimulate more, and mix better with it.

Bitter, Sweet, Slimy, Sub-acrid.

Aloes: It has a *Resin*, and also a Mucilage, Purging by both. *Agaricus* has a *Resin*.

IV. *Hydragogues*: A little Acrimony irritates the *Choler-Bladder*, for expulsion of it; a greater Acrimony irritates the Intestinal Glands, for Purging of *Phlegm*: But the greatest Purging Acrimony irritates not only the expulsion of *Choler*, and Pitu- itous *Serum*, but also a thin *Serum* out of the *Blood*; for that Acrimony not only Stimulates the Intestines, but gets into the *Blood*: It swims readily in the *Serum*, to the Glandules of the Intestines, where the Irritation is.

The moderate *Hydragogues* are either,

First, *Resinous*, or,

Secondly, *Bitter, Slimy, Acrid, Nauseous*.

First, The *Resinous* have no Bitterness, but a latent Oily *Acrid Salt*, coagulate into

a *Resin* by an *Acrid*; which being taken off in the *Stomach*, the *Acrimony* appears. This *Acrimony* is evident in *Turbith*, which burns as the *Tithymals* do; and this yields a *Resin*, like *Jalap*.

Jalap tastes *Clammy* in the *Teeth*, the *Resin* of it smells *Sub-acid*; which *Acidity* fixes the *Acrimony*. *Jalap* flies into the *Nose*, when pounded, and causes *Sneezing*; and when it is fresh, it tastes very *Acrid*, though it be *Inspid* with us. And we cannot but conceive all *Inflammable Resins* to be of very hot Parts; containing a *Rarefied Oyl*, very *Inflammable*, and a *Volatile Salt*, from whence the *Pungency* comes; and an *Acid*, which does abate the *Volatility* of both, and causes it to purge downwards. The *Acrimony* of *Jalap* is also *Diuretick*, when it is given for a *Purge*. *Jalap* is not a *Bryony*, because not *Bitter*, and *Bryony* has no *Resin*.

Scammony has a *Resin* like *Jalap*, which smells *Sub-acid*, and has no Taste with us; but when fresh, it runs *Milky* out of the *Root*, (as *Dioscorides* describes it) and becomes *Milky* in *Water*, as both *Jalap* and *Scammony-Resin*, dissolved and *Precipitated*, do; and therefore I refer them both to a *Tithymaline-Acrimony*, Stimulating by their burning Heat; for
Agarick

Agarick has a manifest Pungency, and yields a *Resin*. *Turbith*-Roots burn in the Mouth, like *Spurge*, and yield a *Resin*, and are Milky.

All the *Tithymals* and *Esula's* Purge by an Acrimony, like an *Acrid Resin*, being Milky.

Mechoacan is Gummy and Clammy in the Teeth, like *Jalap*; and Resinous, and Milky in the Stalk.

Hermodactyls: The Roots taste Mealy, like some Mucilages, and of a little Heat.

Many of these *Plants* purge strongly, though they have little Heat sensible to us. A great deal of the *Tithymaline* Fieriness being spent in the keeping them so long dry; and that which remains, appears not till the *Stomach* has taken off the Acidity from the *Acrid* and *Oyl*, which compose the *Resin*, and is the chief Purging *Stimulus*; tho' the Mucilage help the Nauseousness, by keeping the Purging Acrimony fixt to the Nervous *Membranes*, a good while.

Cambogia is more Gummy than Resinous; the Acrimony may be argued from the Colouring Parts. The Gumminess conceals it from the *Tongue*; it, not being tasted fresh, cannot be so easily discerned. *Bontius* says, It has the
Leaves,

Leaves of Wood *Tithymal*; and probably, when fresh, is of a burning Taste, in which the Purgative Faculty consists. *Cambogia* and *Scammony* have little *Fixt Salt*.

Secondly, The *Bitter, Slimy, Acrid,* very *Nauseous*.

The *First Degree*.

Polygala is Bitter, Slimy, Sub-acrid, and of a Sweet Fragrant Smell.

Viola Martia is Bitterish, Slimy, Sub-acrid, and of a Fragrant Smell.

Iris fresh, is Bitter, Slimy, very Acrid, and purges strongly.

The *Second* sort are strong *Bitters*, very Slimy, and Sub-acrid; as,

Cortex Sambuci.

Radix Ebuli.

Syrupus de spina Cervina.

Cortex ejusdem.

Cortex & Baccæ Alni Nigræ.

Baccæ Euonymi Theophrastri.

Cortex Juglandis & Fructus.

The

The *Third* sort, are extream *Bitters*,
Slimy, and very *Acrid*.

<i>Colocynthis</i>	}	yield a <i>Resin</i> , and are all very Bitter, <i>Acrid</i> , and Slimy.
<i>Gratiola</i>		
<i>Elaterium</i>		
<i>Soldanella</i>		

<i>Tabacus</i> , <i>Dulcamara</i> ,	}	are very Bit- ter, <i>Acrid</i> and Fetid.
<i>Bryonia</i> & <i>Baccæ</i> , <i>Helleborus</i>		
<i>Albus</i> & <i>Niger</i> , <i>Helleboraster</i>		

Convolvulus is Slimy, Bitter, and *Acrid*,
like *Bryony*, and seems a Species of it; the
former are all of the same kind and Taste,
differing in degrees of *Acrimony*, Bitter-
ness and Sliminess, and so differ in Pur-
ging. I have more particularly set down
the Tastes of *Purgers*; because they have
hitherto been supposed to act *Occultly*,
and not by manifest Qualities; of which
I have given Instances in all *Purgers*.

Caustick Purgers are *Cataputia*, *Meze-
reon*, *Esula*, *Ficus*, *Ricinus*, *Euphorbium*.

Mineral Purgers are *Vitriols*, *Pil. Lunares*,
Lapis Lazuli, &c. or *Sulphureous Acids*,
as *Antimonium*, *Sulphur vivum*; *Aquæ Sul-
phuræ Purgantes*.

§. III. Cor-

§. III. Correctors of Purgers.

Acids which correct fiery *Acrid Salts*,
and too strong Bitters:

Cremor Tartari.

Tartarus Vitriolatus.

Succus Limonum.

Acetum.

Succus Citri.

Phlegma & Spiritus Vitrioli, Salis.

Succus Cydoniorum.

Spiritus Sulphuris.

Fumus Sulph. accensi.

Oleose, which dissolve the *Resins*, hinder their Adhesion to the *Guts*, and temper their *Acrimony*:

Balsamum Peruvianum.

Vitellus Ovi.

Balsamum Gileadense.

Ol. Amygdalarum.

Mucilages to correct *Acrimony*, and to defend the *Membranes* from it:

Sem. Psyllii, Mastiche.

Emulhones, Amygdalæ dulces.

Gum Tragacanth.

K

Castia;

Cassia, Diaprunum.
Conserva Violarum.
Pulp. Passularum.
Electuarium Lenitivum.

- IV. *Aromaticks, which correct Bitters and Mucilages, and make them less Nauseous, and expell Wind:*

Ol. Cinnam.
Caryophylli.
Zinziber.
Galanga.
Coriandrum.
Ol. Anisi,
Carui,
Fœniculi,
Juniperi,
Nuc. Moschat.
Semen Anisi,
Carui.
Spiritus Vini.

- V. *Astringents, which hinder too strong Evacuations:*

Santala.
Rosa Rubra.
Myrobalani.
Cinnamomum.

Fixt Salts, which take away the Nauseousness of the *Mucilage*, and hinder *Resins* from sticking to the *Stomach*, by uniting with their *Acid*, and making them more fluid. Not only an *Acrimony*, but a clammy sticking *Mucilage*, makes *Purgers* to gripe much; as it happens in *Senna*, &c.

VI.

Sal Tartari, Absinthii.

The Second CLASS.

Of Sternutatories.

Sternutatories evacuate *Rheum* from the *Nose* and *Glandules*; and are,

First, Acrid Purgers:

Rad. Hellebori albi, nigri, Turpethi, Jalapii.

Fol. Tabaci, Asaræ-Baccæ.

Agarici Pulvis.

Secondly, Bitterish Acrids, Aromaticks, and Cephalicks:

Rad. Primulæ Veris, Iridis, Imperatoriæ, Pyrethri, Zinziberis.

K 2

Fol.

*Fol. Mari, Syr. Majoranæ, Satureiæ,
Musci arborei, Salviæ.*

Sem. Cubebarum, Piperis, Sinapeos.

Thirdly, Acid Vomitories:

Turbith, Sal Vitrioli, Vitriolum album.

Fourthly, All Causticks.

*Ranunculus, Tithymalus, Esula, Euphor-
bium.*

*Caustick Vesicatories, vid. External
Medicines.*

Diureticks, vid. Nephriticks.

Diaphoreticks, vid. Infra.

Emmenagogues, vid. Hystericks.

The Third CLASS.

Of Masticatories.

- I. **M**asticatories are the same as the Bitterish, Acrid, Cephalick Sternutatories; which, by a pungent Acrimony, stimulate the Glandules of the Mouth to send forth the Saliva.

Fetid

Fetid Acrids, which have the same Effect; *Tabaco*. II.

Gummy Resins, which stick to the *Teeth*, and cause a great Motion of the *Teeth* and *Tongue*, whereby the *Saliva* is evacuated; *Mastiche*. III.

To these may be referr'd *Salivatory Evacuations*, by the use of *Mercury*, prepar'd inwardly, or outwardly in Unguent.

Mercury joyns with the *Salts* of the *Blood*, and coagulates the *Serum*; and so produces *Salivation*.

The Fourth CLASS.

Of Vomitories.

Vomitories differ nothing from *Purgers*, but in the Degree of *Acrimony*: They stimulate so soon as they be in the *Stomach*; and therefore irritate the upper *Orifice* of the *Stomach*: And for the same Reason, too great a dose of a *Purge* works upwards, and a gentler *Vomitory* works both ways.

Vomitories are either,

Gentle; which produce Nauseousness, and evacuate only the Contents of the *Stomach*; As,

1. *Oleose*:

Ol. Olivarum, Amygdalarum dulcium, Juscula pinguis, Butyrum.

2. *Mucilaginous Flowers and Herbs*
Sub-acrid:

Flores Genistæ.

Fol. Atriplicis.

3. *Cress-Acrids, Sweet-Bitterish*:

Rad. Raphani, & Semen.

4. *Strong Bitters, and slimy smoaky*:

Fol. Cardui, Bardanæ.

5. *Bitterish, Acrid, Slimy, Sub-Aromatick*:

Rad. Eupatorii, Cannabini.

Fol. & Rad. Erigeri.

Fol. Theæ.

6. *Nauseous Watry*:

Aqua Tepida & Sulphurea.

7. *Nause-*

7. Nauseous Sweets :

Mel & ex illo præparata.

Moderate Vomitories; which evacuate
not only the Contents, but the Pituitose
Lympha from the *Glandules* of the *Sto-*
mach; As, II.

1. Bitter, Acrid, Mucilaginous, Fetid :

Rad. Scillæ, Vinum Scilliticum.

Rad. Narcissi, Digitalis, Baccæ Poly-
gonati, Sambucæ Aquaticæ.

2. Gentle, Mineral, Acid *Vomitories* :

Sal Vitrioli, Gilla Theophrasti.

Strong Vegetable Vomits; which, besides
the Contents, and Pituitose *Lympha* of the
Glandules, evacuate *Choler*, and the *Pan-*
creatick Juice from the *Duodenum*. III.

1. The Strong, Bitter, Acrid, Slimy :

Rad. Bryonii, Hellebori albi.

Fol. Tabaci, Cortex Juglandis.

2. Acrid Terebinthinales :

Rad. Asari, Valerianæ; which, be-
sides the Aromatick, Terebinthi-
nate Taste, have a strong *Fætor*,
like *Hellebor* a little.

K 4

3. *Tithy-*

3. *Tithymaline-Acrids*, Resinous, Gummy:

Cambogia, Laureola.

4. *Caustick-Acrids*, Watry:

Sedum Minus.

IV.

The *Strong Mineral Vomits* have the same Evacuation as the *Vegetable*.

1. *Sulphureous Acid Antimonials*:

Mercurius vitæ, Crocus Metallorum.

2. *Mercurials* fixt by an Acid, and turned into a Vitriol:

Turbith, Mercurius Sublimatus.

Because *Acids, Saline, and Alkalizate* Tastes are in all the following *Classes* very much us'd, I have prefixt these separate *Classes* of them.

The

The Fifth CLASS.

Of Acids.

SOwre cool *Acids*, and some *Acerbs*; I.
there being no pure *Acids* without
Acerbity.

Rad. Bellidis minoris.

Fol. Acetosæ, Acetofellæ, Bellidis, Berberum.

Succi Limonum, Citriorum, Aurantiorum, Granatorum, Ribium, Cerasorum, Prunorum acidorum. Acetum, Succus Mali agrestis fermentatus, Poma Acida, Pyra, Prunellæ. Succus Acetosæ, Bellidis, Uvarum immaturarum.

Conservæ Acetofellæ, Berberum, Pulpa Tamarindorum, Mivæ fructuum Acidorum, & Baccarum Oxyacanthæ.

Syrupi Limonum, Aurantiorum, Aceti, Acetofellæ, Acetositatis Citri.

Spiritus Salis, Nitri, Vitrioli.

Ol. Sulphuris per Campanam.

Mixt

II. Mixt *Acids*. And these are,

First, *Sweet Spirituous Vinous Acids*; which agree better with the *Stomach*, than *Sowre Acids*.

All *Acids* taste *Sowre*, and the most Crude is the *Acerb*; which, as well as the former, by Fermentation become *Spirituous*. *Acids* are more *Sharp*, than the *Sowre*; but differ not much in *Effects*.

Baccæ Sambuci, Mororum, Rubi Idei, Fragorum, Succus Pomorum dulcium, Miræ & Syrupi prædict. Bacca- rum.

Conserva Cynosbati. (bum.
Vinum Pomaceum, Vin. Rhenanum, Al- Vina Ribium, Cerasorum, Mororum, Grossularum, &c.

Spiritus Salis
Nitri
Vitrioli } *Dulcis.*

Elixir Vitrioli, which is *Acid* and *Aromatick*.

Spiritus Aceti.

Secondly, *Acids* mixt with *Earth*; as,

i. *Sowre gritty Tastes*:

Cremor Tartari, Tartarus Albus.

CrySTALLI

Crystalli Acetosellæ, Syrupus Coralliorum.

2. Rough Tastes, Sub-acid: But where the *Acidity* prevails above the Roughness, they are to be referr'd to Sowre Tastes:

Fructus immaturi, Rob Prunorum Sylvestrium & Syrupus, Acacia, Mespila, Sorba, Cotonea Mala, Alumen, &c.

Thirdly, *Salso-Acids*, which are made by compounding contrary *Salts*; which compound *Salts* mix, without any Effervescence, with the *Acid* or *Alkalizate Humors* in an *Animal*:

Tartarus Vitriolatus, Tartarus Nitratuſ, Spiritus Salis refractus cum Sale Tartari, Sal Ammoniacus Naturalis & Factitiuſ;

which are produced by a mixture of *Spirit* of Salt, and *Volatile Salt*.

Urina, which has the same Salt.

Nitrum, which is compounded of a Sulphureous *Acid*, and an *Alkali*.

Fourthly, *Salso-Acids Natural*; which are a Composition of *Acids*, and Stony Particles:

Sal Marinus, Sal Gemmæ, Muria, Aqua Calcis.

Fifthly,

Fifthly, *Chalybeate*, Sweet, Sub-acid *Stypticks* :

Vitriolum Martis, Sal Chalybis, Chalybs cum Tartaro præparatus, Flores Salis Ammoniaci & Tinctura, Aquæ Chalybiatæ ;

which consists of much *Sulphur* ; by which a *Vitriol* is made out of *Iron*, and that but an imperfect one.

Sixthly, *Acids* compounded with *Sulphur* :

Ens primum Sulphuris, Clyffus Antimonii, Aquæ Sulphuræ Font. Flo. Sulphuris, Sulphur vivum.

The Sixth CLASS.

Of Acid-Absorbers.

Medicines of a Terrene or Gritty Taste, absorbing *Acids*, and Volatile and Fixt *Salts*, contrary to *Acids*, are,

First,

First, *Animal Earths or Grits :*

*Oculi Cancrorum & Chelæ, Putamina
Ovorum, Calculi Animalium, Ungu-
læ, Cornua & Priapi, Dens Apri,
Mandibulus Lucii Piscis, Os Per-
carum, & Carpionum.*

Secondly, *Animal Flesh powder'd, or
their Dungs :*

*Caro Viperarum, Stercora Gallinæ, O-
vis, Canis, Capri, &c.*

Thirdly, *Animal Ashes :*

*Testæ Ovorum, Ossa combusta, Spodi-
um, Cornu Cervi ustum, Cancri Flu-
viatiles combusti, Cornix aliæque
Aves combustæ.*

These *Animal Parts*, being burnt, have fit *Pores* for *Acids* to enter into : And it is not improbable, that *Animal Earths* have *Parts* more apt to coagulate with *Animal Acids*, (of which they have been depriv'd by the *Fire*) than any other *Alkalies* have.

Fourthly, *Insects*, and some Bitter, A-
cid, *Animal Parts :*

Lumbrici,

Lumbrici, Cantharides, Apes, Cochinnella, Castoreum, Millepedes, Tunicæ interior. Ventriculi Gallinarum & Columbarum, Bilis Perdicum, Catuli, Gallinæ, &c.

Fifthly, *Volatile Chymical Salts of Animals*, having a quick Urinous Smell, and a Salt pungent Taste :

Sal & Spiritus Cranii Humani, Urinæ, Sanguinis, Viperarum, Millepedum, Lumbricorum, Picarum, Hirundinum : Spir. Salis Ammoniaci, Tartari Volatilis : Spir. Bilis : Sal Volatile Urinosum, Cochleariæ, Absinthii, Menthæ, Glaſti, &c.

Sixthly, *Volatile Oily Compound Salts*; which are either of an Aromatick Taste and Smell, or else impregnate with some Fætor :

Sal Volatile Oleosum Sylvii.

Spir. Salis Ammoniaci Succinatus, vel cam Gummi Ammoniaco.

Seventhly, *Fixt Salts*, saltish, pungent ; as,

1. *Lixivial Salts*, which are mild :

Sal Genistæ, Juniperi, Absinthii, &c.

2. Strong

2! Strong and Cleansing *Lixivial Salts* :

Sal Brassicæ, Fraxini, Fabarum, Filicis.

3. Acrid, Burning *Lixivial Salts* :

Sal Tithymali, Fici.

Eighthly, *Fixt Salts* made out of a Stony Matter, and Sulphureous Acid :

Aqua Calcis, Lixivium Silicum ignit. Lixivium Testarum Ostrearum combust.

Ninthly, Stony or Chalky *Earths*, and petrify'd *Vegetables* :

Creta, Lapides pretiosi, Testæ Ostrearum, Perlæ, Corallium, Ossâ Dactylorum, Cerasorum, &c.

It is observable, that the Stones of Fruits yield an *Acid Spirit*, like Woods.

Tenthly, *Mineral Earths*, and *Minerals* themselves :

Chalybs, Ferrum, Fol. Auri, Tinctura, Crocus, Antimonium Diaphoreticum, Bezoardicum Minerale, Mercurius virus & dulcis, Cinnabaris Nativa,

va, Bolus Armena, Lapis Hæmatitis, &c.

The *Minerals* and *Earths*, by their Grit and Earthy *Sulphur*, imbibe *Acids*, and produce an imperfect *Vitriol* in the *Stomach*, by joyning their *Mineral* Parts to the *Animal Acid*.

The Seventh CLASS.

Of Stomachicks.

§. I. Hot Stomachicks,

- I. **W**Hich correct the Acidity of the *Ferment*, or *Lympha* of the *Stomach*, and so volatilize it; and thereby help the Fermentation and Dissolution of the Meat and *Chyle*.

1. *Acrids*, vid. *Spleneticks*.

2. The *Saline Taste*, $\left\{ \begin{array}{l} \text{Volatile.} \\ \text{Fixt.} \end{array} \right.$

3. The

3. The *Terreous* or *Gritty* { *Stony,*
Vegetable,
Animal, or
Mineral-Chaly-
beates, &c.

4. *Aromaticks,* { *Sweet-*
Bitterish- } *Acrid.*
Ol. Cinnamomi & Ca-
ryophyllorum.

Which deterge the *Pituitose Lympha,*
sticking to the Coats of the Stomach :

II.

1. *Bitters-Vomitory.*
2. *Purging Bitters.*
3. *Strong Bitters.*

Tunicæ Ventriculi Gallinæ.

Which strengthen the *Fibres* of the *Sto-*
mach inwardly :

III.

1. *Aromatick Astringents.*
2. The *Sweet Stypticks* and *Chaly-*
beates.
3. The *Bitterish Stypticks.*
4. *Nervine, or Bitterish, Acrid A-*
romaticks.

L

Which

IV. Which strengthen the *Stomach* externally :

1. The Sweet *Aromaticks*.
2. *Aromatick Astringents*.
3. The *Nervine Bitterish Aromaticks*.
4. *Terebinthinate Aromaticks*.

§. II. *Cool Stomachicks,*

I. Which cool and dilute the too *Acrid* and *Bilious Ferment* of the *Stomach*, and temper the *Blood*, from whence it arises :

1. The *Watry Mucilages*, and *Earthy Mucilages*.
2. The *Terreous Gritty*, which shoot and combine with *Acrid Salts*, and give them a new Figure.

II. Which cleanse away *Choler*, and sharp *Salts*, by the *Liver* and *Stool*; as *Dock-Bitters*, or *Cholagogues*.

III. Which cleanse away sharp *Salts* from the *Blood* by *Urine*; as *Watry Bitters*.

IV. Which coagulate and fix the *Choler* and *Blood*;

Blood; and thereby abate the Ebullition of it, and correct the putrid Ferment of the *Stomach*.

1. *Acids*.

2. *Acerbs*, and other *Watry* or *Crude* *Astringents*.

Spirituos Acids, which supply the Defect of the *Spirituos Acid Ferment* of the *Stomach*; as *Wines*, *Vinegars*, and *Sweet Fruits*, which are Sub-acid; and therefore the Friendly *Specificks* for the *Stomach*. *Vid.* *Sweet*, *Spirituos*, *Vinous Acids*. But slimy *Sweets*, which are *Oleose*, abate the *Appetite*, and destroy the *Fermentation*; as also too much *Watry* and *Astringent Medicines* do; for these *Tastes* are not easily fermented; but the *Sweet Sub-acid* are soon fermented, and so are the *Vinous*.

V.

Salso-Acids help the *Fermentation* of the *Stomach*, and are moderate *Stomachicks*.

VI.

Tables of Hot Stomachicks.

TAB. I. Of Strong Bitters.

SOME whereof are Bitter-Slimy, others Bitter-Astringent, or *Laurel-Bitters*.

Rad. Gentianæ.

Fol. Centaurii, Cardui, Trifolii Fibrini, Verbenæ.

Cortex Fraxini, Ceras. Nigr. Populi Libycæ, Guaiaci, Cort. Peruvianus.

Fructus, Amygdalæ amaræ, Nuclei Persicorum.

Decoctum & Vinum cum Rad. Gentianæ.

Fol. Centaurii, Cardui, Trifolii Fibrini, Verbenæ, additis Aromatis.

Aqua Gentianæ composit.

Extracta Gentianæ, Centaurii, Cardui, Trifolii Fibrini.

Phlegmagoga, Decoctum amarum, Pil. Ruffi, Stomach. cum Gummi, Mastichinæ.

Species Hieræ Picræ & Tinctura, Elixir Proprietatis Tartarifat.

Gummi, Myrrha, Ammoniacum.

Anima-

Animalium Partes amaræ, Hepata & Tunicae interiores ventriculorum Gallinæ & Columbarum, Bilis Piscium & Volucrum.

Vomitoria amara, Vinum Scilliticum, Decoctum Cardui, Bardanæ.

Note, That the Tables of other Tastes, mention'd as Stomachicks, may be found in the following Tables, amongst other Specificks.

I have only placed here Strong Bitters, and Aromatick Astringents; which are most properly esteem'd Hot Stomachicks.

TAB. II. Of Aromatick Astringents.

R *Ad. Caryophyllatæ, Filipendulæ, Pimpinellæ, Ulmaria, Calami Aromatici.*

Fol. Agrimoniae, Schœnanthi, Pimpinellæ, Filipendulæ, Ulmaria, Myrti, Menthae.

Cort. & Fol. Aurantiorum, Limonum, Citreorum, Excrescentia Spongiosa Cynosbatiz.

Flores Rosarum rubrarum.

Ligna, Agallochum, Santala.

Conserv. Rosarum rubrarum, Menthae; Species, Diarrhodon Abbatis, Diacorallion,

*Diamargarit. frigid. Diatrion Santalon,
Aromaticum rosatum.*

*Syrupi Myrtillorum, Rosarum seccarum,
Cydoniorum.*

Spiritus Menthæ, Vinum Rubrum.

Confectio de Hyacintho.

Aquæ Rosarum, Menthæ, Myrti.

Aromatick Astringents externally us'd:

*Ceratum Santalinum, Emplastrum de Ma-
stiche, de Crusta Panis, Stomachicum
Magistrale.*

Aromatick Resins and Balsams:

*Tucamahac, Garofila, Balsamum Peru-
anum.*

*Ol. Rosarum, Myrtillorum, Mastichinum,
Unguentum Rosaceum.*

TAB. III. Of Carminatives,

WHich correct the Rarefaction of
the Chyle into a Windy Spirit:
Which happens,
*First, For want of a thorow Digestion,
And in this Case, the Hot Stomachicks a-
fore-*

foremention'd are most useful; as *Bitters*, *Acrids*, *Aromatics*, and the Absorbers of *Acidities*, *Saline* and *Ferrous*.

Secondly, Or else *Flatuosities* arise from too strong a *Digestion*, and an high *Fermentation* of the *Meat* and *Chyle*, by a great quantity of the *Spirits* contain'd in them; or the exceeding Heat of the *Humors* of the *Body*: And then the *Cool Stomachicks* cure the *Wind* best; as *Acids*, *Mucilages*, *Watry Bitters*, *Astringents*, and *Dock-Bitters*.

Thirdly, If *Flatuosities* happen by the Inflations of the *Fibrous Membranes* of the *Stomach*, occasion'd by the tumultuous Motion of the *Spirits* in them; then *Hystericks* and *Opiates* are most useful.

Fourthly, In *Hypochondriack* Persons there is an *Extraneous Ferment*, which proceeds from the *Acid Humors* of the *Body*, and the putrid Reliques of former *Digestions*; which produces continual *Ructus*: In this Case *Vomitories*, *Cholagogues*, *Phlegmagogues*, *Bleeding*, *Sudorificks*, and *Chalybeate Waters* are necessary: And outwardly the *Bitterish*, *Acrid Nervines*, and *Sweet Aromatics*, and *Astringent Aromatics*, are accounted the best *Carminatives*.

A TABLE of CARMINATIVES,
 consisting of Bitterish, or Sweet
 Acrid Aromaticks.

R *Ad. Galange, Zinziberis, Calami Aromatici.*

Sem. Cardamomi minoris, Piperis, Cubebarum.

Fol. Chamameli, Anethi, Fœniculi, Calaminthæ.

Cort. Winteranus, Aurantiorum, Limoniorum, Cinnamomi.

Flo. Sambuci, Chamameli, Caryophylli.

Spir. Mentha, Mirabilis, Carui, Cardamomi, Vinum Hippocraticum, Spir. Vini.

Condita, Zinziber, Nux Moschata, Cortices Aurantiorum, Citri, Limoniorum, Radices Eryngii condit.

Lignum Sassafras, Bacca Juniperi, Lauri. Species Diatrion Pipereon.

Ol. Piperis, Carui, Fœniculi, Cinnamomi, Caryophyllorum, Nucis Moschata, Tinctura Piperis cum Spiritu Vini.

Externæ, Emplastrum de Baccis Lauri, Gummi fœtida, & Resina Aromatica Terebinthinata.

Tables

Tables of Cool Stomachicks.

TAB. I. Of Watry Mucilages.

R Ad. Buglossi, Boraginis, Althææ,
Nymphææ Flore albo.

Fol. Malvæ, Symphyti, Boraginis, Parietariæ, Violarum, Pulmonariæ Maculossæ, Portulacæ, Beta, Prunella.

Conserv. Flor. Malvæ, Boraginis, Violarum, Nymphææ, Symphyti.

Aquæ Cucurbitæ, Melonum, Cucumerum.
Cortex Ulmi.

Sem. Psyllii, Lini, Bombacis, Malvæ, Portulacæ, Melonum, Cucumeris, Cydoniorum, Amygdala dulces.

Gum. Arabicum, Tragacanthum, Cerasorum, Prunorum, Sanguis Draconis.

Species Diatragacanthi frigidi, Amylum.

Aquæ Spermatidis Ranarum, Lactis cum Limacibus, vel. Sanguine Forcino, vel Pulmonibus Agninis, Aquæ Albuminis ovi, Cancrorum fluviatiliū.

Animalia, Decoctum Ras. eboris, Cornu Cervi, Cancrorum fluviat. Limacum.

Vitelli

Vitelli ovorum & Albumen, Lac Asinum, Caprinum, Vaccinum.

Aqua Vegetabilium, Flo. Malva, Fol. Portulacæ, Boraginis, Emulsiões ex seminibus 4. frigidis, Decoctum Hordei.

Syr. Althææ, Nymphææ, Violarum, Portulacæ.

Terra mucilaginosæ, Bolus Armena, Terra sigillata.

Fructus dulces mucilaginosi laxantes, Passule, Ficus, Jujubæ, Cassia, Manna, Decoctum commune emolliens pro Clystere.

TAB. II. Of Cool Stomachicks, Watry Bitters.

R *Ad. Cichorei, Dentis Leonis, Sonchi, Endivia, Bardana.*

Fol. Cichorei, Endivia, Dentis Leonis, Fumariæ, Genista.

Conserv. Flo. Cichorei & Radicum, summitatum Fumariæ; Aqua Cichorei, Fumariæ.

Syr. Fumariæ. Cichorei, & succi eorundem.

Sem. Bardana, Cardui Benedicti, Decoctum senne, & Syrupus de pomis.

TAB. III.

TAB. III. Of Dock-Bitters, or
Cholagogues.

R *Ad. Rhei & Syrupus, Radix Rhabar-
bari Monachorum, Lapathi acuti, &
vulgaris Folio obtuso.*
*Cortex Berberum, Syrupus de Rosis Da-
mascenis, & floribus Persicorum.*

TAB. IV. Of Acid-Stomachicks.

1. **A** *Acido-dulcia Spirituosa, fructus Co-
raforum, &c.*
2. *Acido-salsa, Tartarus vitriolatus, &c.*
3. *Acido-styptica, Aqua vitriolata, Alu-
minosæ.*
4. *Acido-tartarea, Cremor Tartari, A-
cetum, &c.*
5. *Acido-sulphurea, Nitrum, Ens primum
Sulphuris.*

TAB. V. Of Astringents.

First, Styptick, Bitterish, or Austeres;

R *Ad. Tormentilla, Bistorta, Quinque-
folii, Acetosa, Cynosbati, Hydrola-
pathi, Orobanchi, Fragrarie, Rubi.*
Fol.

Fol. Summitatum Rubi, Cydoniorum, Potentilla, Tormentilla, Quinquesfolii, Alchimilla, Summitatum Ericæ, Tamarisci.

Cort. Quercis, Aceris, Coryli, Prunorum, Mali Cotoneæ, Salicis, Betule, Alni, Cupuli glandium, Galle.

Flo. Balauſtiorum.

Sem. Lapathorum, Acetosa, Fuli nucum, Alni.

Secondly, Acerbs, and Crude Watry Astringents:

Rqd. Plantaginis, Gladioli.

Fol. Acetosa, Lapathorum, Plantaginis, Polygoni, Equiseti, Semper-vivi, Vermicularis, Quercus, Persicaria maculosa, Vitis.

Fructus, Mespila, Sorbi, Cydonia, Berberes, Uvæ immatura, Malus sylvestris, Pruna sylvestria, Acacia, Hypocystis.

Syrup. Prunorum sylvestr. Cydoniorum, Syrupus de Agresta.

Rob. Fructuum prædictorum.

: *Externè, Alumen, Vitriolum.*

The Eighth CLASS.

Of Hepaticks.

§. I. Hot Hepaticks,

WHich open the Passages of the Liver, and volatilize the *Choler*, by absorbing the fixing *Acid* from it; or by supplying its Defect, as the two first Tastes do: But the following Tastes correct the *Acid* chiefly:

First, The Strong Bitters.

Secondly, Bitter Acrids.

Thirdly, Absorbing Gritts: And these are,

1. Testaceous, or *Animal* Gritts.

2. *Stony*.

3. *Vegetable*.

4. *Mineral*: Which are,

First, *Chalybeates*.

Secondly, *Antimonials*.

Thirdly,

Thirdly, *Mercurials*.

Fourthly, *Cinnabarines*.

Fifthly, Preparations of *Gold*.

Fourthly, Saline Tastes; as, *Acid-Absorbers*: which are Volatile, Mixt, or Fixt.

Fifthly, Acrids.

Sixthly, Aromaticks, Bitterish or Sweet.

II. Which purge away the *Choler*: As,

1. *Vomitory-Bitters*.

2. *Dock-Bitters*.

III. Which strengthen the Vessels and Glands of the *Liver*: *Vid.* Strengtheners of the *Fibres* of the *Stomach*.

IV. Which discuss the *Tumors* of the *Liver* externally.

§. II. Cool Hepaticks.

First, Watry-Bitter.

Secondly, Acids pure and mixt, *Salso-Acid*, and *Chalybeates*.

Thirdly, Terreous Gritts.

Fourthly, Styptick, Bitterish, and Acerbs.

Fifthly, Watry-Mucilages.

Sixthly,

Sixthly, Externals, *Ceratum Santalinum*.
Vid. Cool Stomachicks.

A Table of Strong Bitter Acrids.

R *Ad. Curcumæ, Chelidonii, Rubiæ, Capparis, Lupulorum, Verbenæ.*

Fol. Chamædryos, Saliæ agrestis, Cardiacæ, Marrubii, Scordii, Ballotis:

Fol. Absinthii, Tanacetii, Eupatorii, Cannabis, Matricariæ, Abrotani.

Sem. Fraxini, Santonici, Tanacetii.

Cortex Radicum Capparum.

Conserve Flo. Fraxini: Fol. Tanacetii, Absinthii.

Extract. Absinthii, Marrubii, Scordii.

Succus Chelidonii, Absinthii, Tanacetii, Marrubii.

Species Diacurcumæ, Dialactæ, Trochisci de Absinthio, de Eupatorio, de Rhabbaro, de Capparibus, Elixir Proprietatis cum Spiritu Salis Ammoniaci.

Elect. Diatesaron.

Gum. Ammoniacum, Bdellium, Sagapenum.

Stercora Animalium calidorum, Columbæ, Gallinæ, Equi, Anseris.

Fel Catuli nigri, Lacti Piscis, Gallinæ, Hopar anguillæ putrefact.

Purgan-

*Purgantia acria, amara, Extract Rudii,
Pil. Cochiae, de Duobus, Stomach. cum
Gummi, Trochisci Albandal.
Unguent-e succis aperitivis.
Ol. Absinthii.*

The Ninth CLASS.

Of Spleneticks.

§. I. Hot Spleneticks,

WHich take away the Acidities in the *Blood* and *Chyle*, and correct their Coagulations, and Stagnations; by an over-fixing *Acid* in the *Blood*: As,

First, Earthy Gritts, *Vegetable*, and *Stony Mineral*; which are either *Cinnabarines*, *Antimonials*, or *Chalybeates*.

Secondly, Testaceous Gritts or Saline, Fixt, Volatile, or Mixt.

Thirdly, Strong Bitter *Stomachicks*.

Fourthly, Bitter-Acrids; *Vid. Hepaticks*.

Fifthly, Aromatick-Acrids, Bitterish; *Cortex Winteranus*, &c.

Sixthly,

Sixthly, Aromaticks Sweet, Acrid; *Vid.*
Thoracicks.

Seventhly, Fetid, bitterish Acrids; *Vid.*
Hystericks.

Eighthly, Acrids, or *Antiscorbuticks*.

Ninthly, Terebinthinates; *Vid.* *Diure-*
ticks.

Tenthly, Aromatick Astringents.

The Strong Bitters, or Bitter Acrids help the *Digestion*, and preserve the Mixture of the *Blood*, and open Obstructions of the *Spleen*.

The Aromaticks Bitterish Acrid, and Sweet Acids, and Fetid Bitterish Acrids, respect *Windiness*, or the disorderly Motion of the *Spirits*.

The Acrids are the most proper *Hot Spleneticks*, call'd *Antiscorbuticks*.

§. II. Cool Spleneticks.

1. **A**queous Bitters.

2. Watry Mucilaginous.

3. *Acids*, pure and mixt; especially *Chalybeates*, and *Salso-Acids*, and Sweet *Acids*.

4. The Cool, Gritty, or Terreous, or Mucilaginous *Earths*.

M

5. *Au-*

*Syrupus de Eryfino, de Rapis, Cochleariâ.
 Infusio. Seminum sinapeos ad lb. ss. in Vin.
 albi lb. ii. capiat ʒ. iv. bis in die.
 Conserv. Fol. Cochleariæ, Becabungæ, &c.*

TAB. II. Of the Garlick Acrids.

R *Ad. Cepæ, Allii, Porri, Scordii.
 Allium conditum, & Syrupus, & in-
 fusio in Cerevisia, Spiritus Salis Am-
 moniaci cum Gummi Ammoniaco.
 Gummi Sagapenum, Galbanum, Opoponax,
 Ammoniacum.
 Emplastrum de Cicuta cum Ammoniaco.
 Diachylum Magnum.*

TAB. III. Of the Sweet Stypticks, or the Ferns.

Which, by their rough Taste, check
 the irregular Fermentations in the
Hypochondria; and, by their Bitterish-
 ness, and Orris-Smell, (which is manifest
 in *Harts-Tongue-Ale*) they are Pectoral
 and Aperitive.

*Rad. Osmundæ, Filicis Maris, Polypodii.
 Fol. Ceterach, Lingæ Cervinæ, Rutæ mu-
 rariæ, Capilli Veneris, Lonchitidis.*

TAB. IV. *Of the Pea-Tastes.*

Which, by their crude Juice, check the Ebullition of the *Blood*, and help the Separation of *Choler*, and supply the Defects of the *Spleen-Juice*.

Succus Viciarum, Pisi viridia, Fumaria, Aquilegia.

The Purging *Pea-Tastes*:

Senna, Collutea, Laburnum, Genista.

The Tenth CLASS.

Of Thoracicks.

§. I. *Hot Thoracicks,*

Which attenuate the *Lympha*, sticking in the *Bladders* of the *Lungs*. They correct its *Acidity*, and diminish the quantity by *Sweat* or *Urine*. They also open the *Canals* of the *Glands*, where

whereby the *Lympha* has a more clear Circulation through the *Lymphaticks* of the *Lungs*.

First, The *Acrids*, *vid. Spleneticks*. But those that are most chiefly us'd as *Pectorals*, are

Rad. Ari, Syrupus de Eryfimo, Rapis, Allio, Spiritus Salis Ammoniaci cum Gummi Ammon.

Secondly, Strong Bitters, of a Dead-Nettle-Smell:

Fol. Marrubii, Chamædryos, Scorodoniæ, Cardiacæ.

Thirdly, Bitter Astringents, Sub-acrid *Vulneraries*:

Fol. Scabiosæ, Decoctum Guaiaci, Fol. Tussilaginis, Veronicæ, Bugulæ.

Fourthly, Bitter *Acrids*, *vid. Hepaticks*:

Ammoniacum in aqua Hyssopi solut. Tinctura Myrrhæ, &c.

These open the Obstructions made by viscid *Phlegm*.

Fifthly, Bitterish-Acid Aromaticks,
vid. *Cephalicks* :

Fol. Hyssopi, Pulegii, Calaminthæ.
Rad. Iridis, Baccæ Lauri.
Species Diaireos.

Sixthly, *Hystericks* Fetid Acid in the
Convulsive Motions of the *Lungs* :

Rad. Enulæ.
Tinctura Croci, Castorei, Asæ-fetidæ,
Camphoræ.
Sulphuris Tinctura, Flores & Sy-
rupus.

Seventhly, Terebinthinales, *vid.* *Di-*
reticks; and the Classes of *Turpentine-Gums*,
vid. *Mastiche* :

Olibanum.
Bitumens, Succinum.
Balsamick Terebinthinales, vid. *Aro-*
matick Gums and Resins.
Syrupus Botryos.
Balsamum de Tolu, Balsamum Poly-
chrestum, Syrupus Balsamicus.
Resinous Purgers carrying off the
greater quantity of *Serum.*

Eighthly, The Bitterish slimy *Astrin-*
gents,

gents, of a Dead-Nettle-Smell, *vid. Lamium* :

Hedera Terrestris, Galiphis, Betonica, Salvia, Syrupus Hederæ Terrestris, & Succus, & Cerevisia, & Pulvis, & Conserua Florum Hederæ Terrestris :

And these are Cleansing, and also *Vulnerary*.

Ninthly, Sweet Acrid Aromaticks, *vid. Tabulam* :

Sassaphras, &c.

These, by their Oyly Salt, are *Diuretick*, and promote the Circulation of the *Lympha* in the *Lungs*.

Tenthly, *Diaphoreticks*, especially the *Woods* :

Decoctum Sarsæ, Chinæ, &c.

These diminish the quantity of *Serum*.

Eleventhly, *Diureticks* :

Salts, Volatile and Fixt.

These diminish the quantity of *Serum*, and restore it to a Circulation through the obstructed *Lymphaticks*.

*Twelfthly, Externally, Oly Mucilages:
Unguentum Pectorale, Emplastrum de
Mucilagibus, de Meliloto.*

§. II. Cool Thoracicks,

*Cooling the Blood and Lympha, and di-
luting of it, and stopping a violent Cir-
culation.*

*First, Aqueous Mucilages, vid. Cool Sto-
machicks:*

Pulmonaria maculosa, &c.

*Secondly, Aqueous Bitters, vid. Stoma-
chicks.*

*Thirdly, Terreous, Testaceous, and Mu-
cilaginous Earths:*

Terra Japonica, &c.

Fourthly, Bitterish Stypticks.

*Fifthly, The Pea-Tastes, Sweet and
Rough:*

Glycyrrhiza, &c.

Sixthly, Sweet Stypticks, or Ferns:

Capill. Veneris.

Seventhly

Seventhly, Spirituous Acids, or Sulphureous Acids:

Spiritus Salis & Nitri dulcis, Clyffus Antimonii, Ens primum Sulphuris.

Eighthly, Oleous Tastes:

Ol. Lini, Amygdalarum dulcium, Olivarum, Butyrum recens, Sperma Ceti.

Ninthly, Sweet Tastes:

Rad. Liquiritiæ, Graminis, Fol. Bellidis majoris & Flores.

Pulpæ mucilaginosæ dulces, Dactylorum, Passularum, Ficum, Fijubarum, Prunorum dulcium, Succus Glycyrrhizæ, Syrupus Fijubarum, Liquiriciæ, Decoctum Pectorale, Usquebach, Lohoc Sanum, Rotulæ Pectorales, Chocalata.

Saccharum Candum, Mel, Hydromel.

These sweet slimy Tastes most resemble the Taste of the *Lympha* in the *Lungs*; and therefore are *Friendly Specificks* to the *Lungs*.

Tenthly, Opiates, which stop the De-fluxion of Catarrhs through the Glandules in both Hot and Cold Rheums:

Pil.

Pil. Cynoglos. de Styrace, Laudanum liquidum, Theriaca, Diascordium, Diacodium, Emulsio Seminum Papaveris.

Eleventhly, Slimy sweet Purgers:

Cassia, Manna.

A TABLE of Sweet Acrid Aromatics of the Fennil-Class.

R *Ad. Petroselini, Fœniculi, Apii, E-ringii, Cheresolii, Levistici, Angelicæ, Brusci.*

Fol. Fœniculi, Cheresolii, Pectinis Veneris.

Sem. Fœniculi, Anethi, Carui, Coriandri, Cheresolii, Apii, Petroselini, Dauçi, Saxifragiæ, Cumini, Seselios, Amnios, Anisi, Angelicæ, Lignum Sassaphras, Cinnamomum.

Ol. Anisi, Fœniculi, Carui, Cinnamomi, Sassaphras.

Spiritus Angelicæ, Carui, Anisi.

Aquæ distillatæ Fœniculi, Saxifragiæ, Angelicæ, Cheresolii, Petroselini.

The

The Eleventh CLASS.

Of Cephalicks.

§. I. Cool Cephalicks.

THESE respect the Liquor of the Nerves, and correct its Acidity; to which all the Glandulous Liquors are prone: They give a brisk Motion to the Spirits, and open the Obstructions of the Nerves.

First, Strong Bitters, Digestive.

Secondly, Bitter Acrids, Aperitive.

Thirdly, Acrids, Antiscorbutick.

Fourthly, Aromatick-Acrids, Carminative.

Fifthly, Acid-Absorbers, Mineral Cinnabarines, Chalybeates, Antimonial, Mercurials.

Animal Fetid Parts, Testaceous:

Chelæ Cancrorum, Cornua Hirci, Cervi, Ungulæ Alcis, Caballi, Ossa, Granium, &c.

Stercora

*Stercora Pavonis, Columbarum.
Insecta, Millepedes, Lumbrici.*

*Saline Acid-Absorbers; Volatile, Fixt,
Mixt, and Oily Salts :*

Sal Volatile Oleosum.

*Sixthly, Terebinthinales, Aromatick, or
Sub-Fetid :*

*Rad. Serpentariæ, Valerianæ, Hype-
rici Tinctura; Rad. Spicænardii,
Rad. Asari.*

Baccæ Lauri, Juniperi.

Balsamum Mechæ, Peruvian.

Sweet-scented Resins.

*Seventhly, Laurel-Bitters, hindring the
Fermentation of the Blood, and thereby
the Flux of Humors to the Head :*

*Cortex Peruvianus, Cortex Cerasorum
Nigrorum, Amygdalæ amaræ, Aqua
Cerasorum Nigrorum.*

Eighthly, Bitterish-Astringents, Aromatick.

*Ninthly, Bitterish, Acrid Aromaticks,
which are the most proper Cephalicks :
And because they supply the Nerves with
Volatile,*

Volatile, Oleous, Fragrant *Effluvia*, and they also perform the Office of the *Spirits*, in quickning the Circulation of the *Blood*, and the *Nervous* Juice thorow its small Vessels: Therefore these are *Friendly Specificks* to the *Brain*, and *Nervines*.

Tenthly, *Opiates*, which stop the violent Motion of *Spirits*.

A TABLE of the Bitterish Aromatick *Acrids*.

R *Ad. Zedoariae, Galangae, Iridis, Contrayervae, Imperatoriae, Acori, Calami Aromatici.*

Fol. Roris Marini, Lavandulae, Melissae, Majoranae, Thymi, Epithymi, Salviae, Calaminthae, Satureiae, Dyclamni.

Flores Lilii Convallium, Sambuci, Cortices Aurantiorum, Limoniorum, Citreorum, Ol. Chymica, & Aquae Spirituosae, & Cortices conditae praedictorum, Cortex Winteranus, Nux Moschata, Macis, Cardamomum, Cubebae, Piper, Caryophylli.

Ol. Caryophyllorum, Nucis Moschatae, Macis, Piperis, Roris Marini, Majoranae, Salviae,


Salviæ, Lavendula; Spiritus Lavendula, Roris Marini, Melissæ, Lillic-rum Convallium: Corticum Aurantiorum, Citriorum.

Conservæ Flo. Roris Marini, Salviæ, Betonicæ, Liliorum Convallium.

Aqua Flo. Tiliæ, Sambuci, Aurantiorum, Violæ Tricoloris, Melissæ; Flo. Chamameli.

Species Diambra, Diamoschi dulcis, Diagalangæ.

Emplastrum de Betonica, Cephalicum.

 *Cool Cephalicks are the same as Cool Stomachicks. Vide.*

L *Ac Asininum, Emulsiones, Acida Volatilia, & Nitrosa, Decoctum Lactucæ, & Aqua; Unguentum Alabastrinum, Populeum & Opiata mucilaginosæ.*

The Twelfth CLASS.

Of Uterines :

V I Z.

- I. *Hystericks.*
 - II. *Emmenagogues.*
 - III. *Procurers of the Birth.*
 - IV. *Stoppers of the Menses.*
-

§. I. *Hystericks.*

Which are *Cephalicks*, and good I. against *Convulsive* Motions, by their *Fætor* ; being full of a strong Volatile Oyl and Salt. And these are,

First, Bitter Fetids ; some whereof have a Mucilage, others are of a Dead-Nettle-Smell, and others are Terebinthinate Fetids ; and of mixt Smells, Fetid, and Aromatick Resinous.

Rad. Bryonia, Aristolochia, Gentiana, Pæonia, Enula campana.

Fol.

Fol. Ruta, Pæonia, Ballotis, Sophia Chirurgorum, Cotula Fætida.

Flores Calendula, Hormini, Croci.

Sem. Pæonia, Sphondylii.

Gummi Fætida, Myrrha, Assa fætida, Galbanum, Camphora, Bitumina, Succinum, Ol. & Sal Succini.

Tinctura Croci, Succini, Assa fætida, Galbani, Castorei.

Aqua Bryonæ composita, Pæonia composita, Spiritus Castorei, Hormini; Aquæ Simples Rutæ; Flo. Pæoniæ, Nepetæ, Pulegii, Artemisiæ, Juglandium.

Terebinthinate Fetids :

Rad. Asari, Valerianæ; Fol. Sabina, Arboris vitæ.

Conserva Arboris vitæ; Flo. Pæoniæ, Trochisci de Myrrha, Fæcula Bryoniæ, Pulvis de Gutteta.

Sulphur. Flos Sulphuris, Cinnabarina, Tincturæ Sulphur. & Antimonii, Fuligo, & Spiritus Urinosi, Potus aquarum Sulphurearum.

Emplastrum de Galbano.

Fetid Purgers:

Pilulæ Fætidæ, de Succino, de Ammoniaco.

Ol. Rutæ, & Castorei.

Secondly,

Secondly, Cephalicks :

*Dictamnus, Melissa, Mentha, Calamintha, Serpillum,
Pulegium, Lavendula, Majorana.*

Cool Hystericks are the same as *Cool Stomachicks*,
and *Cephalicks*. Vid. Which help the recti-
fying of the Animal Spirits, especially *Chaly-*
beates.

Thirdly, Acid-Absorbers, which offend much in
Hysterical Persons.

Fourthly, Bitterish and Sweet Aromaticks, Car-
minatives; as,

Daucus, Anethum, Angelica, Cuminum.

Fifthly, Opiates which compose all irregular Mo-
tions of the *Spirits*; and are themselves very Fetid.

Sixthly, Strong Bitter Hepaticks and Stoma-
chicks; also bitter Acrids, and rank Acrids.

Seventhly, Aquarum Sulphurearum potus, & ex-
terne.

§. II. *Emmenagogues,*

WHich excite an Effervescence of the *Blood*, and
give it a tumultuous Motion: They also cor-
rect Acids, which fix the *Blood, Choler, and Chyle.*

N

I. Bitter

1. Bitter Stomachicks; *Gentian*, &c.
2. Bitter Acrid Hepaticks; *Absinthium*, *Matricaria*, &c.
3. Bitter Fetid Hystericks; *Castoreum*, *Afa Fœtida*, *Peucedanum*, &c.
4. Bitterish Acrid Aromatick Cephalicks; *Pulegium*, *Artemisia*, *Dictamnus*, *Nepeta*, *Calamintha*, *Rad. Zedoariæ*, *Galangæ*, *Cortex Winteranus*, *Ol. Cinnamomi*, *Caryophylli*, *Cassia Lignea*, *Rad. Asaræbaccæ*.
5. Sweet Acrid Aromaticks; *Sem. Apii*, *Dauci*, *Petroselini*, *Seseli*.
6. Acrids; *Rad. Ari*.
7. Strong Fetid Terebinthines; *Sabina*.
8. Terreous Absorbers of Acids, Saline, Volatile; *Spiritus Salis Ammoniaci*, *cum Succino vel Ammoniaco*.

Fixt Salts.

Mixt Salts; *Borax*.

Minerals.

Chalybeates.

Cinnabarines.

Antimonial.

Mercurials.

Externally Emollient Baths, with Fetid Hystericks and Cephalicks.

Pessus made of Vomitors or Purgers, stimulating the *Vagina*; *Helleborus albus*.

Acrid *Pessus*; *Rad. Allii*, *Rhaphani*.

§. III. Pro-

§. III. Procurers of the Birth.

1. **S**pirituous Aromatick Cordials; *Aqua Cinnamonomi, Spiritus Alchermes.*
 2. Hysterick Fetids; *Spiritus Croci, Castorei, Spiritus Salis Ammoniaci succinat. Aqua Bryoniae, Tinctura Myrrhae, Croci, Castorei, Asae foetidae.*
Externally Hysterick and Emollient Fomentations and Clysters.
-

§. IV. Stoppers of the Menfes.

1. **B**itterish Stypticks; *Rad. Bistortae, Tormentil. &c. Gallae.*
2. Watry Sub-acid Astringents; *Plantago, Polygonum.*
3. Watry Mucilages; *Sanguis Draconis, &c.*
4. Terreous Astringents, and Chalybeates; *Bolus Armena, Crocus Martis, Lapis Haematites.*
5. Acids; *Tinctura Rosarum, Spiritus Vitrioli, Alumen, Sal Prunellae.*
6. Chalybeate Acids, and mixt Acids; which open the Obstructions of the *Viscera*, and do not heat.
7. Opiates, to stop the Evacuation; to which due Purges and Bleeding must be added, for Revulsion.

The Thirteenth CLASS.

Of Cordials.

VIZ.

I. Hot Cordials.

II. Cool Cordials.

§. I. Hot Cordials,

First, **W**hich afford new Spirits, and give a brisk Motion to them, and to the Blood.

I. Aromaticks, very fragrant in Smell:

Rad. Angelicæ, Calami Aromatici, Caryophyllatæ.

Flor. Tunicæ, Sambuci, Liliorum Convallium, Tiliæ, Aurantiorum, & illorum Aquæ distillatæ, Aqua Rosarum.

Conservæ Flor. Tunicæ, Liliorum Convallium.

Fol. Melissæ, Angelicæ, Geranii Moschati, Violæ Tricoloris & aquæ distillatæ.

Confectio Alchermes, Nucis Moschatæ condit.

Cortices Citri, Limonum, Aurantiorum condit.

Gaules Angelicæ, Electuarium Sassaphras.

Ol. Cinnamomi, Caryophyllorum, Citri, Nucis Moschatæ, Syrupus Florum Caryophyllorum.

Species Lætificans Galeni, Diamargarit Calid. Perlæ, Corallia, Trochisci de Gallia Moschata, Diaxyloaloes.

Ambra

Ambra grisea.

Zyberhus, Moschus.

Gum. Resinæ odoriferæ.

Benzoinum.

Balsamum de Tolu.

Styrax.

Aquæ Spirituosæ, Aqua Cælestis, Cinnamomi, Doctoris Stephani, Imperialis, Mirabilis, Spiritus Citri, vel Limoniorum cum Vino Canarino, Spiritus Angelicæ.

Secondly, All the Bitterish Acid Aromaticks and Cephalicks are Cordials.

Thirdly, Hystericks are Cordials, by altering the Motion of the Spirits; as *Castoreum, Asa fætida, Crocus, Species Diambrae.*

Fourthly, All Acid-Absorbers are Cordial, by preventing the Coagulation of Humors; as all Salts, and Testaceous Medicines, and Chalybeates.

Fifthly, Animal Bitterish Acid; *Cochinella.*

Sixthly, Aromatick, Bitterish, Astringent; *Myrtus, Mentha, Rosæ rubræ.*

All Aromaticks being friendly Specifick Cordials, by their similitude to the Spirits, and their *Effluvia*, pass through the Organ of Smelling, and immediately alter the Motion of the Spirits; as the Sweet Smells evidently do in Hysterical Women: The same inwardly taken, by their *Effluviiums*, pass into the Nerves, and quicken the Motion of the Spirits, and increase their Quantity, as all Vinous Liquors do.

§. II. Cool Cordials.

They temper the Effervescence of the Blood, and give it a due quantity of *Serum*, and thereby preserve its Mixture.

First, Aqueous Mucilages, some whereof have a little Heat in them; *Decoctum Hordei cum radicibus Scorzonerae, Cornu Cervi.*

Flo. Cordiales Boraginis, Violarum, Leucoii, Buglossi, Tunicæ, & Conservæ illorum. Sem. 4. frigida, & emulsiões. Aqua frigida Saxoniae, Boraginis, Ulmariae, Pomorum. Aqua Fragorum, Cinnamomi hordeati.

Secondly, Acid Cordials, which abate the Heat of the Blood.

1. Sowre and Spirituous Acids; *Succus Lujulae, Aurantiorum, Citri, Limonum, & Syrupi. Spir. Salis dulcis & aceti. Fructus Ribes, Grossulae, Mora, Fragae, Syrupus Rubi Idæi, Acetum Rosaceum.*

2. Acrid-Acids, and Bitterish - Acids; *Fol. Rosæ folis, Anagallidis Flo. Phæniceo, Acetum Theriacale, Mixtura Simplex, Sal Nitrum depuratum, Sal Prunellæ, Sal Volatile vel fixam Vitriolatum;* which are Salso-Acids, and preserve the Blood from Putrefaction, as common Salt does Salt-Meats.

3. Strong Acids, Mineral; *Spiritus Sulphuris, Vitrioli, Nitri, Tinctura Rosarum.*

4. Astringent Cordials, good in all *Fluxes, Hemorrhages* and great *Effervescences.*

I. ARO

1. Aromatick Bitterish Astringents; *Ulmæ, Pimpinella, Caryophyllata, Santala, lignum Aloes.*
2. Bitterish Stypticks; *Rad. Tormentillæ, Bistortæ, Acetosæ. Fol. Quinquefolii, Potentillæ, Confect. Hyacinth.*
5. Cordial Fragrant Stones; *Perlæ, Corallia:*
And Mucilaginous Earths; as, *Bolus Armena, Manus Christ. Perlæ, Diamargarit frig.*

The Fourteenth CLASS.

Of { I. Diaphoreticks,
II. Alexipharmacks,
III. Hinderers of Sweat.

§. I. Diaphoreticks,

WHich correct the Acids that fix the *Blood*, and hinder the rarefaction of it. These by their hot Parts quicken the Circulation, and force the *Serum* towards the Skin-Glandules.

First, Bitter Acrids; Rad. Contrayervæ, Succisæ, Chelidonii.

Fol. Chamædryos, Scordii, Scorodoniæ, Saponariæ, Lupulorum, Cardiacæ.

Lignum Guaiacum, Fraxini, Buxi. Fol. Cardui, Bardanæ, Scabiosæ, Centaurei. Rad. Gentianæ, Extract. Cardui, Gentianæ, Syrupus Fol. Cardui.

All which are either, *Laurel-Bitters*, or strong Bitters.

Secondly, Bitterish Aromatick Acrids; Rad. Zedoariæ, Imperatoriæ, Millefolii, Petasitidis, Angelicæ, Carlinæ, Dictamni. Fol. Pulegii, Salvia, Calamintha, Aqua Epidemica. Flo. Sambuci, Chamæmeli, Roris marini.

Thirdly, Terebinthinate Acrids; Rad. Serpentariæ Virginianæ, Valerianæ, Asarabaccæ & lignum Juniperi.

Fourthly, Acid Absorbers are Diaphoretick; as,

1. Woods; *Sarsaparilla, China, Saffaphras.*
2. Testaceous Powders; *Pulvis à chelis compos. Lapis Goa, Bezoar, Oculi Cancrorum.*
3. Minerals; *Antimonium Diaphoreticum, Cinnabaris nativa, Bezoardicum Minerale. Flor. Sulphuris.*
4. Animal Powders Fetid; *Pulvis Viperarum, Bufonum, Cochinella, Sanguis Hirci, Stercus Caballi.*
5. Saline Urinous or Lixivial Salts, or Salfo-Acids; *Flores Salis Ammoniaci.*

The Saline Tastes are the Evacuators of the Serum by Sweat, having a Saltnefs like it. And the Vegetable Acrids are also Salts; so that in this Evacuation there is a Similitude betwixt the Medicine and Humor evacuated, as well as in Purgers.

Fifthly,

Part V. by their Tastes and Vertues. 185

Fifthly, Acid Acrids, Diaphoreticks, and Acid Bitters; *Rosa Solis, Annagallis Flo. Phæniceo, Acetum Theriacale, Aqua Theriacalis, Spiritus Guaiaci, Tartari, Sal Succini, Mixtura Simplex, extractum Theriacale, Tinctura Bezoardica cui Spiritus Vitrioli additur.*

These Cool by the Acid, and Sweat by the Acid.

Sixthly, Acid Sulphureous; *Clyffus Antimonii Acidus, & Salsus, Ens primum Sulphuris. Sp. Sulphuris.*

Seventhly, Hystericks Acid Fetid; *Rad. Enula, Flo. Calendula, Croci, Fol. Ruta. Gummi Camphora, Myrrha, Guaiaci. Opium. Flos Sulphuris, & Aqua Sulphurea.*

Eighthly, Opiates with Diaphoreticks; *Diascordium, Theriaca, Mithridatium, Orvietanum, Tinctura Diaphoretica Anodyna.*

§. II. Alexipharmacks,

First, **W**hich throw out the Venemous Poyson by Sweat. *Vid. Diaphoreticks.*

Secondly, Bezoardicks, resisting Putrefaction.

1. Acrids; *Allium, Thlaspi.*
2. Bitter Acrids; *Chelidonium, Scordium, &c.*
3. Strong Bitters, Stomachicks; *Gentiana, Carduus, Centaurium.*

4. Strong

4. Strong Bitters, Aromatick; *Absinthium, Tanacetum, Polium, Eupatorium.*

5. Bitterish Aromaticks, Cephalicks; which preserve the Spirits from Venome; *Salvia, Zedoaria.*

6. Aromatick Astringents.

7. Styptick Bitterish, which preserve the mixture of the Blood, by fixing it; *Radix Tormentilla, Pentaphylli, Bistorta.*

8. Acids which fix the Volatile Salts and Oyls; *Spiritus Salis, Vitrioli, Nitri, Aceti.*

Thirdly, Bezoardicks, hindering the Coagulation of the *Serum* of the Blood by Acid Poysons.

1. The Testaceous.

2. Mineral.

3. Bitter Acrids.

4. Salts Volatile or Fixt.

} Absorbers of Acids.

Fourthly, Bezoardicks, supplying the defect of the *Serum* of the Blood, and hindering too great a rarefaction.

1. Aqueous Mucilages.

2. Acids.

3. Watry Astringents.

4. Terreous Mucilages.

5. Mucilaginous Opiates.

§. III. *Hin-*

§. III. Hinderers of Sweat,

First, **W**hich hinder the hot Effervescence and rarefaction of Humours.

1. Acids; *Sp. Sulphuris, Salis Dulcis, & Nitri Dulcis. Succus Acetosus.*
2. Bitterish Stypticks.
3. Watry Astringents.
4. Watry Mucilages, and Mucilaginous Draughts.

Secondly, Which preserve the mixture of the Blood and Serum, and also cool.

1. Salso-Acids, tart Vitriol; *Sal Prunell. Nitrum.*
2. Sweet Stypticks and Chalybeates; *Lingua Cervina, Capill. Veneris. Rad. Osmunda, filicis Maris, Vitriolum Martis, Aquæ Vitriolata.*
3. The Cichory Bitters.
4. The Pea-Stypticks, *Succus viciæ, fumaria.*
5. Testaceous Medicines, absorbing Acidities; *Corall. Margarit.*
6. Salt Tastes; *Tinct. Sal. Tart. Antimon.*
7. Acrid Antiscorbuticks.

Thirdly, Aromatick Astringents and Austeres, which strengthen the Glands of the Skin; *Santala, lign. Aloes.*

Cortic. Quercus, Prunorum Conserva, Bolus Armen. Tinct. Corall.

The

The Fifteenth CLASS.

Of Nephriticks and Diureticks.

§. I. Cool Nephriticks,

First, **W**hich allay Pain, relaxe and lenifie the Urinary Passages, and supply a great quantity of Liquor to wash the Kidniës.

1. Watry Mucilages:

Rad. Althææ, Malvæ, Nymphææ.

Fol. Malvæ, Althææ, Portulacæ.

Conserv. Fl. Malvæ, Violarum, Nymphææ.

Sem. Psyllii, Lini, Bombacis, Malvæ, Hordei, quatuor frigid. Pulvis Senelorum.

Castanearum emulsio.

Syr. Althææ, Viol.

Lac Asininum, Aqua Lactis, & serum Lactis & Aquæ Chalybeata.

Gum. Arabici, Tragacanth. Ceras. Persica.

Aq. Flo. Malvæ, Betule, & vinum Portulacæ, Nymphææ. Fuscula cum Diureticis, Mucilaginosiss, & Sub-acribus.

2. The

2. The Mucilaginous Pea - Taste, Bitter,
Sweet or Hot:

Radices Ononidis, Asparagi, Aquilegia.

Fol. Ononidis, Genista.

Fl. Genista, Fabarum, & Aqua distillata.

Sem. Fenugraci, Genistæ, Cicera rubra, lupinorum.

Aq. Ononidis, fl. Genistæ, & Siliquis Fabarum.

Syrupus Ononidis.

3. Watry Bitters Sub-acrid:

Radices Dentis Leonis, Sonchi, Cichorei.

Fol. Cichorei, dentis leonis, Endivia.

4. Sweet Pectorals:

Rad. Glycyrrhizæ, Graminis.

*Fructus Ficum, Jujubarum, Dactylorum, Passul. Pru-
na dulcia, Syr. Jujubaram, Glycyrrhizæ.*

Mel, Saccharum.

Cassia.

5. Oleose:

*Oleum Amygd. dulc. Juglandam, Lini, Olivaram,
Butyrum, Sperma Ceti.*

6. Opiates:

*Fol. Lactucæ & Aqua, & Sem. & Emulsio, Diaco-
dium, Laudanum, Aq. Solani.*

Terreous and Lapidose Correctors of Acids: as,

1. Stony Parts of Vegetables:

*Sem. Millii solis, Lapides Dactylorum, Sorborum,
Pyrorum, Persicæ, Cerasorum, Senelorum, fru-
ctus Cynosbati.*

2. Pure

2. Pure Stones :

*Lapis Judaicus, Nephriticus, Spar, filices, Crystal-
lus, Lapis Spongiæ, Lyncis, Vitrum combustum.*

3. Minerals Chalyb.

Aq. Chalybeatæ & Sulphurea.

4. Decoctions of the Woods, which are Sub-acrid:

China, Sarsaparilla, cum ras. Eboris C. Cervi, Santal.

Secondly, Nephriticks, Cleanfers of the Gravel, which also force a great quantity of *Serum* to the Kidnies; or else coagulate with the Sabulous Matter; or by Stimulation of the Membranes cause the expulsion of it.

§. II. Hot Nephriticks.

First, **S**trong Bitters, *Laurel Bitters*, and *Smoaky Bitters*, which cleanse the Kidnies:

Fol. Centaurii, Verbenæ, Cardui.

Sem. Persicæ, Amygdal. amar. Sem. Bardanæ.

Secondly, Bitter Acrids:

Rad. Lupulorum, Mors. diaboli, Corallina, Petasitidos, Rubia.

Fol. Chamedryos, Salviæ agrestis, Marrubii, Absinthii, Tanaceti, Scordii, Empatorii, Lupulorum, Aparines, Asperule. Sem. Fraxini.

Lignum Nephriticum.

Thirdly,

Thirdly, Vegetable Acrids: *Vid.* Spleneticks.

Sem. Eruca, Nasturtii Aquatici, Raphani.

Flores Nasturtii Indici. Fol. Erysimi.

Aqua Fol. Eruca, Coch. Raphani Composit. Perficaria acris, Ari.

Fourthly, Acrid Mucilaginous:

Rad. Urticæ. Fol. Lyfimachia, Leucoii filiquosi.

Sem. Violarum, Urticæ, Brassica, Rapa & jus earumdem.

Fifthly, Bitter Mucilaginous Sub-acrid.

Rad. Bryonia, Bardana, Aristoloch. Gentianæ, Carduorum.

Fol. Alkekengi, Bryonia, Sambuci, Saponariæ, summit. Agrifolii.

Confer. Fl. Periclymeni. Cortex Tiliæ.

Sixthly, Bitter Acid:

Sem. Fraxini Bugulæ, Baccæ Alkekengi.

Seventhly, Salts Volatile:

Sp. Salis Ammoniaci, Ar.

Eighthly, Parts of Animals, abounding with a Latent Volatile Salt, being Fetid and Acrid:

Millepedes, Apes, Cantharides, Sanguis hirci, Urina Hominis sani. Calculi Humani, & Vesicæ fellis Vaccini, oc. Cancr. Test. ovorum, ostrearum, & Chela Cancrorum.

Ninthly,

Ninthly, Fixt Salts:

Sal Fraxini, Fabarum, Genistæ, Absinth. Ol. Tart. per deliquium, silicum ignitorum extinct. Lixivium, Aqua Calcis vivæ, Tinct. Salis Tartari. Sapo ex Sale fixo cum Oleosis componitur.

Tenthly, Salso-Acids:

Tart. Vitriolat. Sal Prunell. Sal Succini, Sal Ammoniacum, Nitrum, Borax, Oc. Cancrorum cum Aceto decoct. Infusiones Sterc. Columbar. Equorum.

Eleventhly, Acids dissolving the Sabulose Matter:

Sp. Salis, Sp. Nitri & Sulphuris, &c.

Cremor Tartari.

Succus Limonum, Acetosæ, Vinum Rhenanum, Pomaceum, Vinum album, Fructus Sub-acidi, Fragæ, Succus Plantaginis.

Twelfthly, Sweet Aromaticks:

Rad. Fœniculi, Petroselini, Brusci, Eryngii, Levistici, Chærefolii, Filipendulæ, Fol. & Sem. Fœniculi, Dauci, Apii, Anethi, Saxifragiæ.

Ol. Chymica & Aquæ distillatæ prædictorum, Lignum Sassafras.

Thirteenthly, Bitterish Aromatick Acrid.

Rad. Iridis, Imperatoriæ, Milefolii, Galangæ.

Flor. Chamæmeli, Sambuci.

Fol. Calamenthæ, Fulegii, Satureiæ, Hyssopi, Be-tonicæ, Salviæ.

Fourteenthly,

Fourteenthly, Terebinthines :

The Table of Terebinthines, Bitterish,
Astringent, Sub-acrid.

I. Aromatick Terebinthines ;

*Fol. Lauri, & Baccæ Juniperi, Cedri, Virgæ
aureæ, Ladani. segetum, Botryos, Balsamitæ,
Saniculæ, Geranii Moschati.*

Rad. Calami Aromatici.

Rob. Juniperi & Spiritus.

Sweet Gum-Resins ;

*Labdanum, Benjaminum, Caranna, Tacamahac,
Balsamum de Tolu, Mechæ, Balsamum Peruvianum,
Ol. Juniperi.*

II. Pure Turpentine ;

Rad. Valerianæ, Serpentariæ Virginianæ, Asafi.

Fol. Hyperici, Ascyri, Androsæmi, Perfoliatæ, Nummulariæ, Geranii Robertiani.

Pini, Abietis, Chamæpityos, Cupressi.

Sem. Nuclei Pinei, Pistachia.

Terebinthina, Mastiche, Olibanum, Ol. Terebinthinum

& Spiritus, Tinctura Hyperici, Aqua Terebinthinata, Balsamum Lucatellæ, Capivi.

O

III. Fetid

III. Fetid Turpentine;

Sabina, Arbor vita, Hepatica Terrestris.

Fol. Hederae & Bacca.

Pix liquida, & Bitumina, Succinum, Sal & Oleum, Petroleum.

Fetid Gums; *Ammoniacum, Galbanum, Bdellium, Sagapenum.*

Fifteenthly, Acrid Purgers are Diureticks;

Pil. de Cambogia, Resin. Jalapii, Diagridium, Turbith. Vid. Hydragogues.

Sixteenthly, Caustick Plants;

Aqua Ranunculi, Persicaria, Anemones.

§. III. *Inward Vulneraries in the Ulcers of the Kidnies, Bladder or Lungs:*

I. **T**erebinthines, Bitterish Astringent.

II. Bitterish Astringents of the Dead-Nettle smell:

Fol. Lamii, Galeopsidis, Hedera Terrestris, Panacis, Veronica, Betonica, Extract. Hederae Terrestris cum Resina & Laudano in Pilulis.

III. Bitterish Stypticks;

Rad. Acetose, Tormentille.

IV. Sub-

IV. Sub-acrid Astringents; *Saxifragia Alba*, *Becabunga*, *Chelidonium minus*, *Tussilago*, *Scabiosa*.

V. Sweetish Astringents; *Capillus Veneris*, *Ruta Muraria*, *Rad. Osmundæ*.

VI. Acid-Absorbers; *Sulphur vivum*, & *Flo. Chalybeata*, *Cinnabaris Nativa*, *Antimonium Diaphoreticum*, *Tinctura vel Balsamum Antimonii*, & *Sulphuris*, *Oculi Cancrorum*, &c.

The Sixteenth CLASS.

Of Arthriticks

I. **W**hich evacuate the *Serum*, abounding in too great a quantity in the *Blood*, and *Lymphæducts*.

First, Catharticks.

1. Resinous, { *Res. Jalapii.*
 { *Scammonii.*

2. Mucilaginous { *Pulvis Cornachinus.*
Acrid Bitter, { *Pulvis hermodactylorū compositus.*
 { *Electuarium Caryocostinum.*
 { *Succus radicis ebuli.*
 { *Syrupus de Spinâ.*

3. Tithymaline }
 Acrids. } *Pil. de Cambogia.*

Secondly, Diaphoreticks,

1. Urinous Sp, C.C. &c.
2. Bitter Acrids: *Decoctum Guaiaci.*
3. Mineral Absorbents: *Antimonium Diaphoreticum, Cinnabaris.*

Thirdly, Diureticks.

1. Terebinthinales: *Chamæpitys, Hypericum, Pinus, Asarum, Juniperus.*
2. Salts Fixt, Volatile, or Mixt.
3. Insects abounding in Volatile Salt: *Milipedes, Apes.*

II. *Arthriticks*, which correct and alter the *Serum* and *Lympha*, are either Hot or Cooling:

First, Cooling Arthriticks,

Which correct the Volatile Acid Salts, and supply a due quantity of *Serum* and *Lympha*.

1. Aqueous Mucilages; *Emulsiones ex sem. 4. frig. Aqua Hordeata, Lac distillatum, Asininum, Serum lactis, aqua Boraginis, Radix Consolidæ, Succus Portulacæ, Lens Palustris, &c.*

2. Waterish Bitters, which cool and deterge the Salts by Urine; *Cichorium, Fumaria, Genista.*

3. Acids

3. Acids which Vitriolate, and Fix Animal Salts
Spiritus Salis Dulcis, Nitri Dulcis, &c.

Sulphureous Acids, not only Fix Salts, but are also Diaphoretick by their Sulphur; *Clyffus Antimonii, Ens primum Sulphuris.*

4. Terreous Mucilages, which act as Astringents and Mucilages; *Bolus Armena, &c.*

5. Bitterish Stypticks, Sub-acrid; *Radix Pentaphyl. Tormentillæ, fol. Ericæ, Tamarisci.*

Secondly, Hot Arthriticks.

I. **H**ot Arthriticks, which correct the Acidity of the Serum and Lympha.

1st. Splenetick Acrids, *Radix Ari, fol. Coch. Porrum.*

2^{dly}. Volatile and Fixt Salts.

3^{dly}. Mineral Acid-Absorbers.

- | | |
|---|--------------------|
| { | 1. Cinnabarins. |
| | 2. Chalybeates. |
| | 3. Antimonials. |
| | 4. Testaceous. |
| | 5. Animals, { |
| | Millepedes. |
| | Lumbr. terrestres. |

II. Nervines, which open the Obstructions in the Nerves and Glandules; (vid. Bitterish Acrid Aromatics) the chiefest of which are, *Rad. Dictamni, Iridis, Angelicæ, fol. Calaminthæ, Betonicæ, Salviæ, Rorifarini, Artemisiæ.*

Fl. Chamæmeli, Sambuci, Rorismarini, Lavendulæ, Liliorum Conval. & illorum aquæ distillat.

III. *Hysterick Fætid*s, which open the *Nerves*, and alter the motion of the *Spirits*; *Radix Pæoniæ, Enulæ, Castoreum, &c.*

IV. *Bitter Stomachicks*, which help the Digestion, *Radix Gentianæ, fol. Centaurii, Verbenæ, &c.* And *Laurel Bitters, Viscum, Cortex Peruvian. Guaiaci, Buxus.*

V. *Bitter Acrids, Hepaticks, and Diureticks*; *Semen Fraxini, Rad. Succisæ, fol. Chamædryos, Scorodonia, Scordii.*

VI. *Arthriticks*, which strengthen the *Nervous Fibres* of the Limbs.

1. *Aromatick Astringents*; *Rad. Caryophyllatæ, fol. Myrti, Rosar. Santal. &c.*

2. *Externally Aromatick Gums and Nervine.*

VII. *Arthriticks*, which stop the Pain and Flux of *Humors*, are *Narcoticks*.

Internal Arthriticks, Slimy, Fetid, or of a heady Smell, *Aqua Papaver. Rubri, Lactucæ, Solani, Paralyseos, syr. Papaveris Rubri, Diacodii, Paralyseos, Sem. Hyoscyami, Papaveris albi, Cynoglossæ, Milii solis, & emulsiones prædictorum, Bacca Herbæ Paridis, Alkakengi, Solani Hortensis, Pomum Amoris.*

The Seventeenth CLASS.

Of Opiates.

I. Bitter Acrid Narcoticks:

Gum. Opium, Tincturæ cum Succis Cydoniorum, Limonum, vel Sp. vini Tartarizata, Laudanum liquidum, Opium Pulverisatum.

Pil. de Styrace, Mithridatium, Theriaca.

Rad. Paralyseos, Auriculæ urfi, have a heady Smell.

Rad. Lactucæ, Papaveris, which have a Fetid Smell.

II. Mucilaginous Narcoticks Fetid:

Aq. Papaver. rhæad. Lactucæ, Solani, Syr. Papaveris rubri, diacodii, sem. Hyoscyami, Papaveris albi, Cynogloss. & emulsiões semin. pil. de Cynoglossâ.

Vid. External Narcoticks.

The Eighteenth CLASS.

Of { I. Breeders of Milk,
II. Lesseners of it.

§. I. Breeders of Milk.

First,

Watry Nourishments :
Lac, Emulfiones, Serum lactis, decoctio limacum, aq. lactis distillata, Rad. Scorzon. tragopogi decoct.

Secondly, Watry Bitters, cooling the Blood, and cleansing it from Choler.

Fol. Cichorei, dentis leonis, Sonchi, & radices.

Thirdly, Bitterish Acrids, opening the Obstruction of the Glands in the Breasts, by promoting Sweat.

Fl. Chamæmeli, Sambuci.

Fol. Salviæ, Betonicæ.

Fol. Menthæ.

Fourthly, Sweet Aromaticks, discussing Wind, helping Digestion.

Rad. fol. & Sem. Fæniculi, Chæresolii, Carui.

Fifthly,

Fifthly, Testaceous Medicines, and all other Absorbers of Acids coagulating the Milk.

Crystallus, oc. Cancr. Sp. C. Cerv.

Sixthly, Externals, which are,

1. Emollients; as,

Althæa, Malva, Sem. lini, hordei farina.

2. Sweet Aromatics, joyn'd with the Emollients, relaxe the Skins of the Breast, and make the Glands more apt to receive Milk.

Fol. Angelicæ, Fœniculi.

§. II. Lesseners of Milk.

First, **BY** Abstinence; Sudorificks, Diureticks, and Purgers.

Secondly, Outwardly, by resolving Medicines, Fetid Gums:

Galbanum, cum Sperm. Ceti & Cera, Camphora, Diachylum cum Gummi, Sp. Salis Ammoniaci, Balsamum Sulphuris.

Thirdly, By Repellents, Acid, or Bitterish Stypticks.

Alumen decoctum, & cum Linteis applicatum, Plantago aquatica.

Repellents and Discutients are best mixt.

The

The Nineteenth CLASS.

Of Venereals which respect the Semen.

I. **T**Hose that supply an abundance of Nourishment, which is Slimy:
Juscula Gelatinosa.

1. Slimy Sub-acrid Vegetables:

Orchides, Faba, Asparagi turiones, Castanea, Avellanae.

2. Aromatick Nourishments and Wines:

Confectio fructus Coco, Piperata, Vinum Hippocraticum, Pastinaca.

Rotula stimulantés Minsychti.

3. Rank Nourishments, resembling the Smell of the Semen:

Astaci, Ostreae, Cancer, Cancri fluviatiles, Salmo, Sturgeon, Pisces Marini, Scincus.

Testes Gallorum, Agnorum, &c.

The Stones of all Animals contain some Relish of the *Semen*, as the Liver does of the Gall; which being good as an Hepatick, I think there is the same reason for the Stones of Animals to be Venereal Medicines by supplying Matter.

II. Those

II. Those Medicines that stimulate the Urethra,
are Venereals.

1. Diureticks, which cause a sharpness of Urine,
as the Sweet, Hot, Acrid Aromaticks :

Rad. Eryngii, Apii, Sceleri, fœniculi, Sem. Dauci,
• Petroselin.

2. Bitterish Acrid Aromaticks :

Piper, Zinziber, Confect. Alchermes cum Moscho,
Ol. Cinnamoni, Majoranæ, Nux Moschata,
Mentha, Horminum.

3. Acrids :

Sem. Eruce, Rhabhani, Sem. Fraxini, Urtica,
Sinapi, Nasturtii, Flores Croci, Calendula.

4. Terebinthines :

Sem. Pini.
Pistachia.

5. Animal Acrids : *Cantbarides.*

Animal Parts Fetid :

Priapus Cervinus, Taurinus, Millepedes, Apes.

6. Salso-Acrids :

Muriatica, Haleces, Borax, Aq. Magnaximitatis,
¶ formicarum Spiritus Salso-Acidus.

7. Opiates are also Acrid.

Externally :

Ol. Formicarum, Moschus, Zibethus, Ol. nuc. Mosch.
Spica, Axungia hirci.

Anti-

Antivenereals good against the *Gonorrhœa*,
Fluor albus, & *Pollutio Nocturna*.

1. Mucilages, correcting the Acrid Serum, and
 Opiates:

Rad. Althææ, Nymphææ.

Sem. 4. frigida, & emulsiões, Lac.

Aq. Lactucæ, Portulacæ, Nymphææ, & Syrupi,

Cassia, Sem. Cynoglossæ, & Opiata.

Gum. Mastich. Terebinthina coct.

2. Astringents Bitterish Styptick:

Rad. Tormentil. Bistort. Fragariæ.

Fol. Salicis, Plantag. Polii, Fl. Balaustiorum.

3. Acid Absorbers:

*Terræ Mucilaginosæ, Lapis Hematitidis, Decoctum
 Lignorum.*

Chalybeata Styptica, Crocus Martis.

Astringents or Testaceous:

Corall. Os. Sepiæ.

Sacch. Saturni.

Injectiones ex Aq. Calcis Vivæ, Sacch. Saturni, &c.

4. Coolers of the Acrid Salts and furious Spirits:

Sp. Vitrioli, Decoct. Tamarindorum, Sp. Nitri,

Lapis Prunellæ, Acetosa, Mercurius dulcis.

5. Cleansing and drying Diureticks, Bitter A-
 crids, killing the Animal in Semine:

*Millefolium, Mentha, Ruta, Agnus Castus, Radi-
 ces Iridis, Sem. Cannabis, & emulsiõ ejus-
 dem, Camphora,*

Abfin.

Abfinthium, and other Medicines for the Worms, act by their Vertue, as Bitter Acrids.

6. Bitters Acrids :

Gum. Succinum, Mastiche, Refina, Olibanum.

7. Vulneraries : *Vid. Diureticks.*

The Twentieth CLASS.

Of Ophthalmicks.

Internals, opening the Obstructions of the Nerves, and those that give a quicker Motion to the Spirits.

1. **B**itterish Acrid Aromatick Cephalicks :
Fol. & Flores Betonicae, Salviae, Rorismarini, & Conservae florum, Fol. Majoranae, Rad. Iridis.

2. Hysterick Fetid Acrids respect the Motion of the Spirits.

Rad. Peæonia & Semen, & Flores, Crocus, Horminum, Ruta, Rad. Enulae.

3. Sweet

III. Sweet Aromatick Acrids :

*Rad. & Sem. Fœniculi, Sem. Carui.**Aq. Fœniculi, Chærefolii.*

IV. Cleansing Aperitives, and cleansing Vulneraries :

1. Strong Bitters, Bitter Acrids :

*Fol. Verbena.**Succus Chelidonii Majoris & Aqua,
Myrrha, Aloes.*

2. Bitterish Astringents, which are also Vulneraries, Cleansing and Healing :

Hedera Terrestris, Euphrasia.

V. Aromatick Astringents, strengtheners of the Membranous Fibres and Nerves :

Lignum Aloes, Cinnamon. Agrimonia, Caryophyllata.

VI. Chalybeata.

VII. Testacea.

VIII. Salina.

IX. Acria.

*Volatilia.**Fixa.**Salina Oleosa.*Absorbers of
Acids.Internal Coolers are the same as in Cool
Cephalicks.

External

External Ophthalmicks, Discutients, and Detergents.

1. **B**itter Acrids; *Chelidonium & Aqua, Myrrha, Aloes, Sarcocolla, &c. Fel Lucii, Gallina, Ferdicis.*
2. Bitterish Astringents. *Vid. The Internals.*
3. The Sweet Acrid Aromatick; *Aqua Fœniculi, & Succus.*
4. Terebinthines; *Hypericon, Thus.*
5. The Bitterish Acrid Cephalicks; *Flores Sambuci, Chamæmeli.*
6. Hysterick Fetids; *Crocus, Camphora.*
7. Sweet Detergents; *Mel, Saccharum Cand.*
8. Ophthalmick Gritty Powders; *Tutia, Os Sepia, & Saccharum.*

External Cool Ophthalmicks.

1. **M**Ucilaginous, allaying the sharp Rheums:
Sem. Lini, Psyllii, Cydoniorum, & frigidorum, Fœnugraci, Papaveris, Album. Ovi.
Gum. Tragacanthi, Sanguis Draconis, Lac, Panis albus.
Aqua Malvæ, fl. Nymphææ, Portulacæ, Lactucæ,
Pulp. Pomorum Putridorum.
Unguentum Rosatum, Ophthalmicum, Pomatum.
Anodyna. Aqua Solani, Papaveris.
2. Watry Astringents, Bitterish Repelling:
Ros. Rubræ, flores, & albæ, & Aquæ Distillatæ Rosarum. Aqua Plantaginis, fol. Quercus, semperivivi, Conserv. Rosarum.

3. Wa-

3. Watrish Bitters, Cooling and Cleansing :
Aqua Cichorei, fl. Cyani, fl. Fabarum.
4. Acid Absorbers :
*Pulv. Coralliorum, Perlarum, Tutia, Cerussa, Sief
Album cum Opio, Lapis Calaminaris, Os Sepiæ.*
5. Acid Waters repelling :
*Vitriolum Solutum, æs viride, Saccharum Sa-
turni solut.*

The Twenty first CLASS.

Of Medicines against the Worms.

1. **B**itter, Slimy, Sub-acrid Purgers, which carry away the stagnating *Chyle*, from whence the *Worms* are produced :

*Helleborastri Succus cum Vino expressus, Senecio, Aloes, Elixir Proprietatis, Myrrha, Species
Hieræ Picræ, Syr. Florum Persicorum.
Rhabarbarum, & Syrupus.*

2. Bitter and Bitter Acrid Hepaticks, which hinder the Corruption of the *Chyle*, and open the Obstructions in the *Lacteals*, and disturb the *Worms* :

Rad. Gentianæ, Aristolochiæ, Fæculæ Bryoniæ, Centaurium.

Scor-

Scordium, Abrotanum, Tanacetum, Absinthium, Marrubium.

Sem. Santonici, Tanaceti.

Ol. Absinthii, Fel Tauri, Colocynthis, Oleum Rataceum, Laurinum.

3. Acids disturb the Worms much, but increase the Obstructions:

Sp. Salis Vitrioli, Clyffus Antimonii, Succus Limonum, Sp. Nitri Dulcis.

4. Acrids disturb the Worms, and open Obstructions in the Lacteals:

Allium, Cape, Cochlearia.

5. Salso-Acids:

Sal commune, Sal Ammoniac. & Planta Marinae salsa Aquâ asperse, ut Corallina.

6. *Salia Volatilia* disturb the Worms, and open Obstructions.

7. Fixt Salts:

Lixivium cujusvis Plantæ & Sal Fixum.

8. Fetids:

Radix Enulæ, Fol. Rutæ, Sabine, Matricariæ. Flores Sulphuris, Ol. Succini, Camphora, Balsamum Sulphuris, Cinnabarina.

9. Mercurials:

Infusio & Decoctio Mercurii, Mercurius Dulcis.

10. Oleosa, præsertim Chymica, *Ol. Absinthii, & Spirituosa, Vinum Rubrum, Spiritus Vini.*

Sweet Tastes, Sugar, Honey.

Externals:

Ol. Rutæ, Laurinum, Fel, Hiera Picra.

The number of Medicines for the Worms is infinite, but there are few which will kill them: And Worms that live constantly in the Guts (where Choler is mixed with their Meat) are not much offended with Bitters; as will appear by the following Experiments; *viz.*

I put divers Earth-Worms into divers Glasses full of Water, and into each Glas put a different Medicine.

Coloquintida put into the Glas, disturbed them much, as appeared by their violent Motions; but the Worms did not dye, till after a long time.

Rhubarb disturbed the Worms much, but did not kill them.

Spirit of *Salt* did most disturb the Worms, and put them into furious Motions, and killed them. The same effect had *Salt*, put into the Glas.

Elixir Proprietatis, Prepared with an Acid, did much offend the Worms, and killed them.

Spirit of *Harts-Horn* did disturb the Worms as much as Spirit of *Salt*.

Sugar put into the Glas, made them very uneasy.

I put some Worms into *Quicksilver-Water*, in which they lived well; but sometimes they would creep out: but they would not be offended at the *Quicksilver* in the bottom: Therefore when *Quicksilver* is used inwardly, it must acquire some *Vitriolick Taste*

Taste from the Acid in the Stomach, otherwise it cannot be excellent for the Worms.

Mercurius Dulcis did very little disturb them, but would not kill them.

The Worms would creep out of the Water, in which *Walnut-leaves* were infused.

Corallina did very little disturb them; neither did burnt *Harts-Horn*.

Wormseed is an excellent Medicine, for that, by the Acridness, did very much disturb them; but above all, *Claret-Wine* killed them presently, and they never recovered.

Wormwood and *Sena* did but little disturb them.

Scammony, added to *Mercurius Dulcis*, did not stir them.

Oyl of *Olive* did not offend nor kill the Worms.

From these Experiments, I infer, That we cannot give any Bitter to kill Worms; but if by Bitter things they be for divers days driven into the *Colon*, then a Purge or Clyster will carry them away. And for the prevention, the Obstructions of the Lacteals must be opened, and the Diet alter'd; and Plasters to the Belly may offend the Worms, and open the Obstructions in the Belly.

External Medicines.

The First CLASS.

Of Cosmeticks,

First, **W**hich clear the Pores of the Skin from the Humors or Worms stagnating in them.

1. Medicines abounding in Volatile Salt :

Fæcula Radicis Ari & Aq. Foliorum.

Camphora, Spiritus Vini, Urina Pueri.

2. Lixivious Medicines, cleansing the Skin, and absorbing Acids :

Ol. Tartari per Deliquium, Saponata Lavacra.

3. Sulphureous Medicines :

Sulphur Vivum.

4. Bitter Medicines, Oleous or Mucilaginous ; and these Smooth and Cleanse :

Oleum Amygdalarum amararum, & Emulsio.

Radix Bryoniæ, aq. Fabarum, fl. Aurantiorum,

fl. Sambuci, aq. Dipsaci.

Secondly, Repelling Cosmeticks ; they stop the flux of Humors towards the Skin.

1. Acids:

1. Acids :

Acetum, Phlegma Vitrioli, Succus Limonum, Lac ebutyratum.

2. Mercurials Vitriolick :

Aq. Sublimati, Mercurii dulcis.

3. Astringents :

Aq. Argentina, Lac Virginis, Alumen cum lacte decoct.

4. Smoothers of the Skin.

The Mucilaginous :

Emulfiones ex Amygdalis dulcibus, Rad. Sigilli Solomonis in Vino infusa, Aqua Albuminis Ovorum, Aq. Fragariae, Aq. Solani Lethalis, Aq. Cerasorum, Sperma Ceti, Pomatum, Pinguedo Viperina, cum Bals. Peruviano.

Liquor ex Cochleis cum Sale Tartari, Aq. Spermatidis Ranarum.

5. Cooling Oyntments :

Unguentum ex calce lotâ.

6. Psilothra, taking off the Hair,

1. By fretting it, as Woollen Fillets.

2. By Corrosive Salts; *Lixivium forte, & Calx viva.*

3. By Acids; *Ol. Vitrioli, Sulphuris.*

4. By Poysonous Corroding Sulphurs; *Auripigmentum, Arsenicum, Sandaracha.*

The Second CLASS.

Of Vesicatories which evacuate Serum from the Skin-Glandules.

- I. **V**esicatories abounding with a Volatile Salt,
or Corrosive hooked Salt.

Rad. Ari, Allii, Ranunculi, Dracontii.

Sem. Sinapi.

Fol. Ranunculi Pratenfis & Flammei.

- II. Acid-Acid Vesicatories :

Ros Solis, Anagallis Flore Phæniceo.

- III. Vesicatories from Acid Animal Salts :

Cantharides, Emplast. Vesicatorium.

- IV. Lixivial Salts :

Cineres Fraxini, Vitis.

The

The Third CLASS.

Of Causticks,

WHich make an *Eschar*, and afterward an *Ulcer*, by which Tumors are evacuated; and if kept open, become *Issues*.

First, Mineral *Causticks* which Burn, and make a Black *Eschar*, are Lixivial Salts; as, *Lapis Corrosivus*: or Mineral Salts; as, *Calx viva*.

Secondly, Mineral *Causticks* which burn, and make a White *Eschar*.

I. Acids with a Fiery Sulphur; as, *Butyrum Antimonii*, *Ol. Vitrioli*, *Arsenicum*, which is compounded of a strong Sulphur, and Acid Salt, whereby it is Corrosive.

II. Acids mixt with Minerals; *Mercurius Sublimatus*, which hath the Acid of Spirit of Salt; *Crystalli Lunæ*, which have the Acid of Spirit of Nitre.

Vegetable *Causticks* are the strong *Vesicatories*:

1. Acrids, above-mentioned, abounding with a Volatile Salt; as, *Ranunculus Flammeus*.

2. Milky, Gummy, Acrid Plants; *Tithymalus*, *Esula*, *Ficus*, *Euphorbium*.

The Fourth CLASS.

Of External Narcoticks,

Which allay Pains, and disperse and soften Tumors :

Sweet and Bitterish, Slimy, Sub-acrid *Narcoticks*.

Rad. Solani, Cynoglossi, Hyoscyami.

Fol. Solani, Cynoglossi, Hyoscyami, Tabaci, Stramonii, Papaveris, Lactucæ, Cicutæ.

Ung. ex Stramonio, Tabaco, Ung. Populeon, Anodynum, &c.

Ol. Solani, Ol. Express. ex sem. Hyoscyami, Papaveris.

Suc. Solani, Lactucæ.

Aqu. distillat. Solani, Lactucæ, Papaveris.

Gum. Opium in Sp. Vini solutum,

The

The Fifth CLASS.

Of Anodynes,

WHich, by their Mucilage, allay Pain, moistening and cooling the dry Fibres, relaxing the tense; and also, by their warm Heat do please the Spirits irritated by Pain.

Emollients and Suppuratives have the same Mucilage and gentle warm Parts, by which they cherish the Natural Heat of Animals, relaxing the Skin, and thereby soften and suppurate Tumors.

I. Slimy Sub-acrid:

Rad. Malvæ, Althææ, Liliorum, Symphyti, Sigil. Solomonis.

Fol. Malvæ, Althææ, Erigeri, Tiliæ, Ulmi, Violæ, Atriplicis, Mercurialis, Parietariæ.

Sem. Lini, Psyllii, Malvæ, Fœnugræci, Hordei, Tritici, Panis Medulla.

Cort. Ulmi, Tiliæ.

Flor. Malvæ, Liliorum, Nymphææ, Meliloti, Genistæ, Croci.

Fruct. Passulæ, Ficus, Dactyli, Bacca Taxi, Visci, Agrifolii, Oxyacanthi.

Animal. Lumbrici, Cochleæ, Vitellus Ovi, Sperma Ranarum, Lac, Brodia Pinguia. Decoctum Capitis & pedum Vervæcis.

Ol.

Ol. Liliorum, Lini, Amygdal. Nymphae, Pedum Bubuli, Ovorum, Olivarum, Violarum, Lumbricorum.

Pingued. & Adip. Urst, Porci, Gallinae, Hominis, Vulpis, Butyrum, Medulla Vituli, Cervi, Bovis, Sperma Ceti.

Empl. De Mucilaginibus, Diachylum.

Ung. Dialthae, Basilic. Pectoral. Resumptivum.

II. Strong Emollients, which are Mucilaginous, and have an Oyly Acid to discuss and attenuate, as well as a Gum or Mucilage to soften.

Rad. Cæparum tostarum, Bryonia.

Fol. Porri, Digitalis, Bryonia, Sambuci.

Gum. Ammoniacum, Bdellium, Galbanum, Sagapenum.

Empl. Diachylum cum Gumm. de Cicuta cum Ammoniaco, de Ranis, de Galbano.

The Sixth CLASS.

Of Discutients,

Which open the Pores, and discuss by attenuating the Humor collected in Tumors.

I. Bitterish Acid Aromaticks, or Nervines.

Rad. Iridis, Imperatoria, Angelica, Calami Aromatici, Zedoaria.

Fol.

*Fol. Majoranae, Salviae, Lavendulae, Catamintha,
Hyssopi, Satureia, Matricariae, Artemisiae.*

*Flo. Chamamelis, Sambuci, Stæchados, Lavendula,
Rorismarini.*

Bac. Lauri.

Ol. Chamæmeli, Laurinum, Lavendula, Rorismarini

Ung. Martiatum.

*Empl. Diachylum Ireatum, de Baccis Lauri, Ce-
phalicum.*

II. Fetid Acid Discutients :

Rad. Enulae, Pæoniae, Bryoniae, Aristolochiae.

*Fol. Rutæ, Ballotidos, Cotulæ Fætidæ, Conyzæ
mediæ.*

Spirit. Fuliginis.

Gum. Camphora.

Ol. Tartari, Guaiaci, Succini.

Ung. Agrippæ.

III. Discutients of an Elder Smell being Bitter.

Rad. Ebuli, Scrophulariæ.

*Fol. Ebuli, Sambuci, Saponariæ, Scrophularia,
Digitalis, Linaria.*

Ol. Sambuci.

Ung. Corticis Sambuci & Cataplasma. ex foliis.

IV. Sweet Acid Aromatick Discutients :

Rad. Levistici, Apii.

Fol. Fæniculi, Apii, Levistici.

Sem. Cumini, Fæniculi, Anisi.

Ol. Anethinum, Fæniculi Chym.

V. Acrid

V. Acrid Discutients :

*Rad. Raph. Ari, Allii, Porri.**Sem. Eruca, Sinapeos.**Fol. Alliaria, Thlaspi, Eruca, Nasturtii, Ari.**Sp. Cochleariæ.**Ung. è Foliis Nasturtii Aquat.*

VI. Terebinthinate Discutients :

*Fol. Sabinæ, Cedri, Hyperici, Virg. Auræ.**Bacc. Juniperi, Hederæ.**Ol. Terebinthin. Hyperici, Bacc. Juniperi Chym.**Bitumina, Oleum Terræ, Petroleum, Album, Rubrum. Ol. Succini Chym.**Gum. Aromatic. Tacamahac, Styrax, Ladanum.**Fetid Gums, Ammoniacum, Sagapenum.*

VII. Bitter Acrid Discutients :

Fol. Chelidonii, Absinthii, Tanaceti, Eupatorii, Scordii, Chamedryos, Marrubii.

VIII. Animal Discutients having a Fætor :

*Stercora Caballi, Columbarum, Hirci, Hirundinis Nidus cum Stercore.**Sal. Volatil. Spir. Salis Ammoniac. cum Sp. Vini, Sp. C. C. Urinæ.**Ol. Viperarum, Scorpionum, Bufonum, Lumbricorum, Vulpinum, Catellorum, Hirundinum.*

IX. Discutients from Fixt and Mixt Salts and Minerals :

Lixiv. Absinthii, &c.

Urina

Urina, Aq. Calcis, Solutio Nitri, Aluminis usti,
Sal. Marin. usti, Sal. Ammoniac.

Sapo & Ol. Saponis.

X. Mineral Sulphurs:

Aq. Chalybeatae & Sulphureae.

Cinnabaris, Antimonium, Pyrites, Flor. Sulph.

Empl. Diasulph. & Balsam. Sulphuris, Balsamum
Antimonii.

The Seventh CLASS.

Of Cooling External Repellents, *which temper the Hot Humor.*

I. A Queous Mucilages, and crude Juices, and
externally cooling Minerals:

Rad. Symphyti, Althææ, Fungi Mucilaginosi.

Fol. Nymphae, Cucumerum, Melonum, & fructus
& aqua; Lens Palustris, Alfine.

Aq. Frigida, & Portulacæ, Lactucæ, Nymphae.

Animal. Albumen Ovi, Sperma Ranarum.

Ol. Violarum, Nymphae.

Ung. Alb. Camph. Popul. Alabastrinum. de Calce lota.

Gum. Tragacanthi, Sanguis Draconis.

Empl. de Minio.

Muci-

Mucilaginous Earths; *Bol. Arm. Amylum.*
Mineral Coolers; *Minium, Cerussa.*

II. Repelling Acids, and Mixt Acids:

Succus Limonum, & Malorum Sylvestrium.
Fol. Plantag. Lapath. Polyg. Semper-Vivi.
Acetum, Lac Virginis, Sacch. Saturni, Vitriolum & Phlegma, Alumen.
Sal Prunel. & Nitrum, Borax, Sal Ammoniacum.
Aq. Sublimati.
Empl. Diapalm.
Ung. Nutritum.

III. Astringent Repellers, which give an A-
striction to the Fibres, and stop the Humor out
of the part.

1. Austeres:

Rad. Tormentil. Bistortæ, Hippolapathi.
Cort. Querci, Aceris, Fagi, &c.
Fol. Rubi, Equiseti.
Sem. Lapathorum, Sumach.
Flor. Balaustiorum, Rosarum.
Ol. Rosarum, Myrtillorum.
Ung. Comitissæ, de Bolo.
Empl. contra Rupturam.

2. Minerals:

*Ochra, Crocus Martis astringens, Bolus Ar-
mena, Saccharum Saturni.*
Gum. Mastiches, Sanguis Draconis.

The

The Eighth CLASS.

Of Vulneraries Internal and External.

First, **C**leansing Vulneraries.

1. Strong Bitters Slimy :

Rad. Gentianæ, Aristolochiæ, Scrophulariæ, farina Lupinorum, Fabarum.

Fol. Saponariæ, Sambuci, Gum. Myrrhæ, Aloes. Unguentum Apostolorum.

2. Bitter Acrids of a Dead-Nettle Smell, and those have an Astringency also :

Fol. Scordii, Chamædryos, Salvia Agrestis, Marubii, Ballotidos.

3. Bitter Acrids Sub-Astringents :

Fol. Absinthii, Abrotani, Rad. Rubiæ.

4. Cephalick Cleansers, Bitterish Acrid Sub-Astringents :

Rad. Zedoariæ, Iridis, Fol. Chamæmeli, Mentha, Hyssopi, Dictamni, Millefol.

Empl. De Betonicâ, Unguentum Enulatum.

5. Sweet Acrid Aromatics :

Radic. Apii, Fœniculi, Petroselini, Chærefolii.

Lignum

Lignum Sassafras.

Sem. Dauci.

Unguentum ex Apio.

Secondly, Sarcoticks.

1. Laurel-Bitters; these cleanse by the Bitterness, and heal by the Astringency:

*Fol. Verbenaë, Centaurii Minoris, Vincæ Per-
vincaë, Trifolii Palustris, Fol. Lauri, Cerasi,
Ligustri, Ol. Laurini.*

Cortex & Lignum Guaiaci, & Fraxini.

2. Bitterish Slimy Astringents:

*Fol. Lamiorum, Galeopsidis, Panacis, Syderitidis,
Veronicaë, Bugulaë, Hederæ Terrestris.*

3. Strong Smoaky Bitter Astringents:

Jacea, Scabiosa, Hieraceum, Auricula Muris.

4. Bitterish Aromatick Astringents:

Filipendula, Pimpinella, Myrtus, Agrimonia.

5. Terebinthinate Bitterish Astringents: *Vid.*
Diureticks.

*Rad. Valerianaë, & Enulaë Campan. Consolida
Saracénica, Fol. Hyperici, Saniculæ, Gera-
niorum, Androsæmi, Nummulariaë, &c.*

*Ol. Terebinthinaë, Hyperici, Balsami Peruviani,
Bals. Sulph. Petroleum.*

Unguent. Basilici, de Gummi Elemi.

*Gum. } Olibanum, Colophonia.
Resina, }*

Bitumina, Succinum.

Cortex Thuris.

Thirdly,

Thirdly, Epuloticks :

I. Which make the Cicatrix by Astringency.

1. Bitterish Stypticks, or Austeres :

Rad. Tormentil. Bistort. &c.

Cortex Quercin. Aceris, Betulae, Gallae, Alni, &c.

Vide Astringent Repellents.

2. Gritty Earths, which imbibe the Humidity of an Ulcer, and the Acid in those which are fordid, and thereby become Styptick.

Creta, Oc. Cancrorum, Testae Ovorum combust.

Ostreorum, C. Cervi ustum, & Ossa combusta,

Corallium, Crocus Martis, Lithargytus, Os

Sepiae, Spodium, Suber ustum, Cerussa, Mini-

um, Plumbum ustum, Terra Vitrioli dulcis.

Amalgama Mercurii cum Plumbo, Lapis Cal-

aminaris, Tutia, Unguentum album, desicca-

tivum rubrum, de Tutia, Diapompholyge.

3. Astringent Earths :

Bolus, Ochra, Empl. de Bolo.

4. Sweet Stypticks as the Ferns :

Rad. Osmundae, Filicis maris, Saccharum Satur-

ni, Lac Virginis, Lac Aureum ex Gallis, &

Solutione Lythargyri.

5. Rough Acids :

Vitriolum, Alumen, Lapis Medicamentosus.

Q

Fourthly,

Fourthly, Conglutinatives for fresh Wounds.

1. Bitterish Stypticks Cicatrifiers.
2. Terebinthinales.
3. *Laurel-Bitters, Astringents*; and these Two last cleanse as well as *Cicatrise*.
4. Earthy Astringents.
5. Mucilages very Clammy or Gummy, sticking the Wound together; and those are the only proper Conglutinatives.

Rad. Symphyti, Sigill. Solomonis, Typhæ, Cynoglossi, Fol. Symphyti, Cynoglossi, Tabaci, Farinæ Triticæ, Hordei.

Gum. Arabici, Tragacanthæ, Gluten, Sanguis Draconis, Mummia, Resina, Pix, Cera, Terebinthina. Albumen Ovi, Gelatinæ ex Ras. C. C.

Decoct. Sarsæ, interné.

Empl. Gryseum, Stypticum Crollii.

Ol. Ophioglossi, Hyperici, & Balsama Vulneraria, Empl. contra Rupturam.

Fifthly, Digestives in Ulcers.

1. Oleose or Fats :

Ol. Rosarum, Butyrum, Ol. Olivæ.

2. Terebinthinales :

Gum. Elemi, Olibanum, Resina, Terebinthina cum Vitello Ovi, Mastiche, Cera, Mel, Unguentum Basilicum.

3. Muci-

3. Mucilaginous Herbs and Meals :

Farina Hordei, Fenugræci, Tritici, Lin.

Rad. Liliorum, Malvæ, Althææ, Cynoglossi.

Fol. Digitalis.

Flores Croci, Liliorum.

Sixthly, Cathæreticks, or Eaters of Proud Flesh.

1. Burnt Minerals very Drying :

*Vitriolum ustum, Colcothar, Cinnabaris, Alumen
ustum, Pumex ustus, Pompholyx, Sal ustum,
Æs ustum, Lapis Calaminaris, Antimonium
ustum.*

And Burnt Vegetables, *Gallæ ustæ.*

2. Mixt Salts :

Aqua Calcis, Lapis Medicamentosus, Acetum.

3. Minerals mixt with Acids, or Vitriolick Acrids:

*Unguentum Ægyptiacum, Æs Viride, Mercurius
Præcipitatus, Aq. Sublimati, Vitriolum.*

4. Acids:

Ol. Vitrioli, Sp. Salis, Nitri, Aq. Fortis.

All Acids and Mixt Acids (as well as Bitters and strong Stypticks) hinder the Putrefaction in Ulcers, and correct the Acrid Volatile Salts which corrode : for where any Putrefaction is, there is a Salt very Volatile ; therefore in putrid Ulcers the Acid does not abound, but most chiefly in undigested, thin, gleetings Ulcers it abounds.

4. Strong Bitters Acrid :

Pulv. Sabinæ, Radix Aristolochiæ, Aloes, Cucumis Agrestis.

5. Strong Stypticks :

Gallæ, Fl. Balaustiorum, (hence a Decoction is made for fordid Ulcers) ex Gallis, Alamine & Vitriolo.

Seventhly, Medicines against the Caries of the Bones.

1. The Strongest Bitter Acrid Cephalicks :

Rad. Iridis, Ol. Caryophyllorum, Succini.

2. Strong Acrid Causticks :

Gum. Euphorbiæ.

Eighthly, Stoppers of Bleeding, inwardly and outwardly, in Wounds.

I. Inwardly.

1. Watry Mucilages incrassating :

Rad. Symphyti.

Albumen Ovi.

Gum. Arabicum.

Limaces, Lac, Bolus Armena.

2. Acids Coagulating the Blood, Serum and Lympha, and fixing Acrid Salts :

Tinctura Rosarum cum Sp. Vitrioli, Succ. Limonum, Lac ebutyratum, Sp. Salis Dulcis, &c.

3. Watry

3. Watry Bitterish Astringents, and Acid Astringents:

Fol. Plantag. Polygoni, Succ. Acaciæ, Hypocistidis, Rad. Bistort. Tormentill. &c.

II. Outwardly.

1. Acids and Cool Astringents, applied as Frontals:

Oxycratum.

2. Fetid Smells:

Stercus Porcinum, Muscus Terrestris, Opium.

3. Amulets causing Fear:

Bufo exiccatus, usnea ex Cranio.

To those must be added Revulsions by Bleeding, Cupping in the Neck, Purging, Compression of the Arteries, near to the Bleeding.

4. Causticks put upon Tents:

Colcothar, Crepitus lupi, Fungus Quercinus, Gypsum ustum, Alumen ustum, Lapis infernalis.

5. Vitriolicks applied with Tents:

Atramentum, Fuligo Cacabi ænei, Vitriolum Cæruleum solutum.

6. Powdered Gums, which help the thickning of the Blood, and therewith stop the Orifices:

Terra Sigillata, Thus, Mastiche, Aloe, Telæ Araneæ, Pili Leporini, Ossa & Lintea calcinata, Amylum, Resina.

Of Poysoned Wounds by Animals.

I. **T**He Venemous Poyson must be extracted and destroyed.

First, It is destroyed by

1. Fire, or actual Cautery, which is applied to the Bites of Serpents.
2. By Medicines contrary to Fermentation and Putrefaction.
 1. Acids; as,
Spongia aceto madida.
 2. Mixt Salts :
Sal commune, Halec.
 3. Oyls :
Ol. Scorpionum, Succini, Caryophyllorum.
 4. Bitters :
Gentiana, Aristolochia, Centaurium, Verbena, Ruta, Theriaca, Mithridatium, Myrrha, Aloe.
 5. Acrids :
Cepe, Allium, Sinapi, Piper.

Secondly, It is drawn out

1. By Cupping-Glasses.
2. By the Oyls mentioned, with which all Oily Acrids (as the small active Particles of Poysons seem to be) easily mix.
3. By Vinous Spirits, which easily imbibe such Particles.

Sp. Vini, Sp. Rorismarini, Aq. Vitæ.

4. By

4. By some parts of the Animal applyed, with which the Poyson readily mixes.

Pulvis Serpentum calcinatorum, Bilis Serpentum & Capita.

5. By Fomentations of Cephalicks.

The Wound, after the Poyson is removed, is to be treated as in Ordinary Wounds; but because internal Antidotes are necessary, and they cannot be known without some general Notions of *Poysons*, I shall next discourse of *Poysons*.

Of POYSONS.

THERE is observed to be Poysonous *Minerals* and *Animals*, as well as *Vegetables*.

Poysons either corrode the Stomach, or coagulate the *Serum* of the Blood, or putresce the whole Mass, or else act most on the Spirits.

I. I will mention *Mineral Poysons* first, which taken inwardly corrode the Stomach, and gripe, vomit, and cause Hiccoughs and Faintings, and at last gangrene it, and give a blackness to it.

1. *Arsenic* is corrosive, by a particular Texture of Sulphureous Particles and Acids. The proper Antidotes for it, are those which destroy its Tex-

ture; as Fixt Salts and Acids, as *Nitre*: But first we must endeavour its Evacuation, and the securing of the Stomach, as is hereafter prescribed against corrosive Poysons.

2. *Antimony* is less corrosive, by a particular Texture of Sulphureous parts, and Acid, and produces violent Evacuations with Convulsions. This Texture is ~~also~~ destroyed by Acids, which fix the Sulphur; and Fixt Salts, which take off the Pungent Acid.

3. *Mercury* sublimite is corrosive, by a particular Texture made by the particles of *Quicksilver*, dissolved by an Acid: And this vomits, corrodes, and produces Convulsions; but this going into the Blood coagulates it, and produces Salivation: This Acid is absorbed by Fixt and Volatile Salts, and so the corrosive Texture is destroyed.

4. *Aqua Fortis* corrodes and vomits by its Acid pungent Figures: The Acid must be altered by Absorbents; as, *Earths, Steel, Alkalizate Salts*. And the same serve for Oyl of *Vitriol*, Spirit of *Salt* and *Nitre*; and for all other Mineral Preparations made by Acids; as *Vitriol*, which corrodes and vomits, *Æs Viride, Squama Æris*, which is vitriolated in the Stomach.

The particular Texture of all these is altered by Absorbers and Precipitaters of Acid; but the *Brass*-favour taste is best cured by Spirit of *Salt*.

5. *Calx viva* and *Gypsum* are corrosive to the Stomach, by a fiery Fixt Salt, which is corrosive; and

and produces Pain, Thirst, and a Dysentery. Acids temper the fieriness of Fixt Salts; and Fat Earths, Mucilages, and Slimy Oyls do the same.

Ale will not cause *Lime* to effervesce.

6. *Lead*, *Ceruss*, *Red-Lead*, and *Litharge*, produce Pains, Gripes, and Dysenteries; and *Litharge* binds the Belly. The Sulphureous parts in *Lead* being corrosive, these are best cured by fixing them with Acids; and the dryness of the *Lead* is corrected by Oyls. *Lead* is turned into a *Salt* by Spirit of *Vinegar*, which will more easily pass off the Stomach; to which that is also observed to be very hurtful, causing Nauseousness by its Sweetness.

7. *Glass* and *Diamonds* are only Poyson by their sharp edges which fret the Guts; and these cannot be altered, wherefore they are very dangerous Poysons.

II. *Minerals* are Poysonous by their Fumes, which pass through the Organ of Smelling, and immediately act on the Spirits; as the Fumes of *Arsenic* and *Antimony* which kill suddenly, by destroying and fixing the Spirits: Or *Quicksilver* Fumes, which cause *Palsies*, by coagulating the *Succus Nervosus*: Or the Fumes of *Lead*, which smell sweet, and produce a Convulsive *Asthma*, and also dry the Lungs.

Oyls, Mucilages, and Watry Medicines are used to cure this *Asthma*.

II. Vegetable P O Y S O N S.

First, **V** *Egetable Poysons* corrosive.

I. The pure Acrid Volatile Salt in the *Cress-Tastes*, are a little corrosive by their pointed Figures ; but in the differing kinds of true Corrosives, there is some difference in the Figures of the Volatile Salt, which is given it by a particular Texture of Oyl and Acid, which are Ingredients in the making of this Salt of a hooked Figure.

1. This *Corrosive Salt* is mixed with much Water in *Ranunculus*, &c. These cause Vomitings, Gripes, and Pains in the Stomach.

2. This *Corrosive Salt* is mixt with a well-digested Oyl, in *Clematis* and other Fragrant Corrosives ; and this also burns, blisters and vomits.

3. This *Corrosive Salt* is mixt with a little Sliminess and *Elder-smell*, in *Hellebor*, *Colchicum*.

4. This *Corrosive Salt* is mixt with much Water, and a Resinous Oyl ; as in *Spurge*, they burn, blister, purge and vomit violently ; as *Spurge*, *Cam-bogia*, &c.

5. If this *Corrosive Salt* is joyned with a great *Fætor*, it produces a Venemous Plant ; as in *Aconitum*, *Napellus*, *Cicuta* : Nature has marked these Plants, by the black Roots, and given them a considerable *Fætor* to offend our Smelling, and thereby
cause

cause an Aversion. These last produce Giddiness, *Delirium*, burnings in the Stomach, Inflations of the Body and Fever. They first corrode the Stomach, then pass into the Blood, and at last affect the Spirits.

Acids change and fix this *Corrosive Salt* and Fetid Smell.

6. Because Fetid differs but in degree from Aromaticks, therefore there are some *Corrosive Poysons* of a Smell mixt of Aromatick and Fetid; as *Cicutaria*, *Madnep*, and *Coriander*; and these have a strong heady Smell, Sweet and Offensive, with sweet Roots, by which their Acrimony is allayed: And they act by a Vapour which passes through the Stomach and Blood without much trouble; but they cause a Vertigo in the Spirits and a slight *Delirium*.

These have their Volatile Oyly Salt fixt and changed by Acids.

Secondly, *Vegetable Poysons*, which have a *Fætor* producing Sleepiness; as all Narcoticks, *Hyoscyamus*, *Cynoglossum*, *Solanum*, *Mandragora*, *Nux Vomica*.

Solanum Lethale produces a Suffocation by its Sliminess, as the *Mushrooms* do; but the Fetid part of all the Opiates mentioned, produce an Itching in the Flesh, which is a sign of a *Volatile Salt* in Opiates, and a Giddiness, *Delirium*, *Stupor*, and in too great a quantity Convulsions, low Pulse, and Breathing slowly, and at last Death.

Some

Some Opiates which are very Slimy, Bitter, and Acrid, purge and vomit violently; as *Tabaco*, and *Solanum Lignosum*, and *Marvel of Peru*.

Mandragora has a strong Narcotick *Fætor*, but something Aromatick in the Fruit. And there are poysonous Narcoticks which have an Aromatick mixt Smell; as *Pomum Amoris*, and *Flos Africanus*.

Opiates were accounted cold, because of their Mucilage, but their *Fætor* makes them hot.

The proper Antidotes for Narcoticks, are,

1. Those things which correct the Bitter, Acrid, and *Fætor* of Narcoticks, as all the Acid Alexipharmacks, *Sp. Vitrioli*, *Sulphuris*, *Aceti*, *Succ. Limonium*.

2. Those Fetids which excite the Motion of the Spirits, and promote their Agitation; as *Asa Fætida*, *Castoreum*, *Crocus*.

3. Those fragrant Aromaticks which supply new Spirits, and give a quick and brisk Motion to them: And therefore large quantities of Wine are recommended by *Galen* against Opiates.

4. Those Medicines which correct the Sliminess of Narcoticks; as *Sal Tartari*, and the *Lixivia*, these open Gums, by taking off the Acid which coagulates the Mucilage into a Gum.

Thirdly, *Vegetables* become Poysonous by a very indigested crude Mucilage, as in *Mushrooms*, from whence there is produced in the Stomach a crude Juyce, which not being digested by a Ferment,

ment, like other raw Meat, it produces a violent *Cholera*, and, by the Earthy *Fætor*, (observable in *Mushrooms*, a Strangulation, Gripes, and sometimes a *Stupor* is produced.

Acrids, Aromaticks, and Carminatives are here most useful against *Mushrooms*, with which therefore they are pickled to give them a Taste, and also to help their Digestion, as with *Spice*, *Pepper*, *Dill*, &c. we use also *Vinegar*, and austere *Pears* are commended to stop Vomiting, and to correct the Fetid part of *Mushrooms*. To this kind of *Poyson* may *Cucumbers*, *Melons*, and other crude Plants be reduced, which are *Poysons* to some Persons, not being easily digested by them.

I have mentioned *Vegetables* as *Poysons* to Men, tho' Insects and other Animals feed on them safely; and Dogs cannot be Poysoned by any of our Country Narcoticks. And I find this observed in *Senertus*: *Multa sunt Animalia, quæ cibus nobis venenosus pascuntur, sicut Sturni cicuta, & Coturnices veratro, Anates bufones aquaticos devorant, Ciconiæ Serpentes, Gallinæ Araneas, quæ tamen Animalia homini in cibum veniunt.*

III. Animal P O Y S O N S.

First, **C**orrofive Internal *Animal Poysons*; as *Cantharides*, which have a fiery Volatile Salt, which frets the Passages of *Urine*, and some-

sometimes produces bloody *Urine*. This effect is best corrected by *Milk*, *Oyl*, and *Emulsions*: And also *Acids* fix the Volatility of those *Salts*. These hot Insects corrode the Guts, and produce a *Dysentery*; but if they pass into the Blood, they there cause Heat, *Fever*, *Delirium*, *Vertigo*, or swellings of the *Face* or *Skin*, and sharpness of *Urine*.

These are the Effects of *Animal Poysons* taken Inwardly; their *Poysons* being from a fiery Volatile Salt; as in *Toads*, *Spiders*, and other Insects.

Secondly, Corrosive *Animal Poysons* which happen externally,

I. By the sting of a *Bee*; these are also a very Acrid Salt; as it appears by the Experiment mentioned in *Wedelius*, *Si ictus Apum vel Vespæ ungue excipiatur, & degustetur, salinum aut hujusmodi quid manifestè deprehendi potest*. This Acrid Salt will kill a *Viper* if a *Wasp* sting him. This Animal Liquor being instilled warm into the Vessels of another Animal, there ferments the Humors of the Animal which is stung; and by this new Fermentation a Putrefaction is produced, which destroys the natural *Crafsis* of all the Humors.

Such is the nature of the Stinging of *Common* and *Roman Nettles*, which send out a Saline, Acrid Liquor, which enters into the Pores of an Animals Skin, and there instills that Venome cold, which is the cause of Itching, Burning and Blistering of the Skin. I find the same Acrid in the Root of the

the *Nettle*; and there is also a Sweetness in *Nettle-Roots*. The stinging Acid Juyce is the Juyce of the proper Vessels of *Nettles*; and therefore it is not improbable, that the proper Vessels of the Plant constitute those Spikes which prick the Skin, and convey the Venomous Liquor into it: And by this we find that Plants and Animals agree in their Stings and Poysons, as well as in their Principles, which I have mentioned.

Corrodentia

II. The ~~Corrosive~~ *Animal Poyson* which happens Externally, by the Biting of another Creature which is either naturally Venemous, or else made Venemous by a Disease.

I. The Bitings of a *Viper*, or other Serpent, produce Pain, Swelling, and make the part Black, Livid, or Red. The Animal, after a few hours, vomits, faints, has cold Sweats, and Convulsions, and then dies. The Blood of the Poysoned Animal is Black, and coagulates; as it appears upon Dissection, and that gives the Vomiting and Blackness to the Intestines: From the Coagulation the Pain and Lividness of the part proceeds; and from thence also the Faintings, cold Sweats, and Convulsions arise. So that all the Symptoms in an Animal Bitten proceeds from the Coagulation of the Blood.

The cause of this Coagulation cannot be from any Acid in the *Viper*, for we find no considerable Acid but in the Stomachs of Animals: And we find
all

all the Acids in Animals, either joyned with the Salt or Fats of Animals, and no Acid is naturally pure in the Humors of Animals; therefore the Coagulation must be deduced from some other reason.

We observe that *Rennet* coagulates *Milk*, and we find no Acid in it sufficient to coagulate so great a quantity of *Milk*, as one spoonful is used to do. We find that *Rennet* will not immediately coagulate the *Milk*, but after some space.

The White of an Egg thickens and curdles *Milk*, by fermenting with it, and not by an Acid. And we find that in the Stomachs of Animals *Milk* is coagulated by its Ferment. *Blood* being produced out of *Milk*, it may well be supposed, that *Blood* may be coagulated the same way as *Milk* is.

I will therefore compare the manner of Operation of *Rennet* on *Milk*, and Poysonous Ferments on the Blood of Animals.

1. The *Milk* is warmed before its Coagulation, by which the *Rennet* is sooner dispersed through it, and the Fermentation is promoted.

So in *Poysons*: The *Saliva* of the Animal is not Poysonous, unless it be instilled Hot from the living Animal into the Wound of another living Animal; for then the Poysonous Ferment has the greatest activity and agitation of parts: And a Dead Animal receives no alteration by a Poysonous Bite.

2. The taste of *Rennet* is Slimy, Sub-acid, or Saltish; and this slimy Liquor dissolves from the putrefied Skins of a Stomach.

The,

The taste of the *Saliva* of a *Viper* (as Monsieur *Charras* describes it) is not Bitter, but tastes flat, like Oyl of *Almonds*, and leaves, after a little while, some Acrimony in the Mouth, such as may be discerned in all kind of Spittle. The Yellowness of the *Saliva*, argues that it has some Tincture from the *Gall*; and if it be like other Spittle in Taste, it is Sub-acid and not Acrid, as *Charras* says. A Putrefaction is necessary to produce *Rennet*, and a high Digestion in a particular Animal is requisite to produce a Poysonous *Saliva*; and we find *Dogs* to have a Poysonous *Saliva* when their Digestions are raised, and Humors putrefied by a *Fever*, which occasions the Madness.

Tho' the *Saliva* taken from the *Viper* cannot Poyson another Animal, yet the same fresh and warm instilled amongst the Juices of an Animal, will readily ferment them, and putrefie them.

It is observed that the Bite of a *Mad-Dog* does not venome the Wound considerably, if the Bite be upon any part covered with Cloaths; but if it be upon a bare place, the Bite is generally fatal. It is evident, That the *Saliva* in one is more insinuated into the Wound, than in the other; and therefore the Wound is more Fatal. From whence I believe the *Saliva* to be the Animal Ferment, coagulating the Blood of any bitten Animal. The sliminess of the *Saliva* makes it more certainly stick to the Wound; and this Slime we observe in *Barme*, which is a Ferment as well as Spittle and *Rennet*: with this

Slime is usually joyned some more active Spirituous, Brisk, Oily, Acid Particles, which give the first motion to Liquors which are Fermentiscible. This Slime helps the dissolution of the aery Particles in Liquors; and by this those fine parts are preserved; as in the Bubbles of *Barme*. These brisk spirituous Particles are more brisk in some Ferments, than in others; and therefore produce different degrees of Fermentation; and the one kills quicker than the other.

3. *Rennet*, after a small time, thickens and coagulates the *Milk*; and a small quantity of it coagulates a great quantity: one Spoonful coagulating some Gallons of *Milk*.

The Poysonous Bites of *Vipers*, after a few hours, coagulate the Blood, and produce the Symptoms I have mentioned. The quantity of the Poysonous Ferment is very small, and we find all Ferments to work in a little quantity; as in the use of *Barm-leaven*; and many Medicines, as *Opium*, produce great Effects, by the quantity of one Grain: And amongst the corrosive Animal Poysons, a grain of *Cantharides* produces violent Symptoms.

Milk and *Blood* attain their natural *Crafts* by a Fermentation in the Stomach, and receive their perfection by divers Circulations; but if after they have attained their perfect Mixtures and Texture, they be further fermented, they are then putrefied; the Acid being then separated from its Texture with
the

the *Oyl* and *Earth*, it precipitates and coagulates the whole Mass of *Milk* or *Blood*: So when we ferment Wines or Beer, which is perfectly clear and spirituous, this second Fermentation makes it eager or Acid, and destroys its natural sweetness and briskness. We generally observe Acid smells after the Fermentation of Vegetables, and in Animal Stomachs; so that Acidities in putrefied Bodies, are the effects of Putrefaction, which separate that from the *Oyl* and *Earth*, and thereby cause Coagulations in those Liquors which have Viscid and Fibrous Parts.

The most proper Antidotes against Animal Poysons, which are the Bites of Venemous Creatures, are,

I. The Poyson must be destroyed in the Wound, or drawn out, as is mentioned in Poysoned Wounds.

II. The coagulation of the Blood must be prevented by those Alexipharmacks which hinder and stop the Fermentation; as,

1. Volatile Animal Salts; as,
Sal Volatile Viperarum, &c.
2. All the Alexipharmacks which resist Putrefaction. *Vide.*
3. Diaphoreticks, which discuss the Venemous Ferment by Sweating. *Vide.*

R 2

4. All

4. All absorbers of Acids do prevent the Coagulation of the Blood.
5. Cordials which strengthen and supply Spirits, during the coagulation of the Blood.
6. At last when the coagulation is prevented; the cool Cordials are necessary to allay Heat, Thirst, and Fevers, arising from the Coagulation, or the long use of hot Antidotes.

The Bite of a *Mad-Dog* is cured after the same manner, as those of *Vipers*.

The Bite of a *Dog* not being Venemous, the *Fever* renders his Spittle Venemous; and then it causes Trembling and Fear at present; and after a Months time, or such a space, it occasions a little *Fever*, *Vomiting*, *Delirium*, *Quinsie*, and *Convulsions* of the *Breast* and *Throat*. And the same Symptoms I observed in a Woman who dyed by the Bite of a *Mad-Cat*.

This Woman was afraid of Liquids; and those that are bit by *Mad-Dogs* have a *Hydrophobia* from their *Delirium*, or else from a difficulty of swallowing Liquids. And to these, Antidotes are to be given in a solid form, which they will take well.

I put a large quantity of *Diascordium* into *Milk*, and after some *Rennet*, which turned it presently; and therefore these famous Antidotes do not hinder the coagulation of *Poysons*.

I boyled *Garlick* in *Milk*, but that would not hinder the Coagulation by *Rennet*.

I mixed

I mixed *Sal Volatile Oleosum* with *Milk*, and put *Rennet* to it, but it would not curdle; therefore this is a good Medicine against Venemous Bites.

I mixed some *Lixivium* of *Ferne* with *Milk*, and put *Rennet* to it, but it would not turn; and therefore Fixt *Salts* are good against coagulating Venoms.

I mixt some *Lobsters-Claws*, burnt and powdered, with *Milk* and *Water*, and put some *Rennet* to it, but it turned immediately; and therefore neither Testaceous Medicines nor Vegetable Acrids (as appears by *Garlick* and *Diascordium*) can be confided in, but only Volatile and Fixt *Salts*; and therefore these are the best Antidotes against Venoms, which act on the Blood by Fermentation and Coagulation.

The Symptoms of Malignant *Fevers* are so like those of Fermentative *Poysons*, that the occasion of them seems to be, some Animal Humors Putrefied, and coagulating the *Blood*: And the same Medicines cure *Poysons* and malignant *Fevers*. In malignant *Fevers* the strength is immediately gone without much *Fever*; but a lightness in the Head and *Delirium*, with *Faintings*, cold *Sweats*, and *Convulsions*, are ordinary Symptoms attending it.

The Infection of malignant *Fevers* is communicated by *Effluvioms*, which are only the Humors of the Diseased Person in the form of a Vapor; and therefore *Effluvioms* may propagate Infection as well as the Humors of the Body. These *Effluvioms*, by

which the Infection is propagated, pass (like Fetid Smells) thro' the Organ of Smelling, and mix with the *Succus Nervosus*, and with it circulate into the *Blood*, out of the *Nerves*, whither the *Succus Nervosus* runs, as all other Glandulous *Lympha's* do.

These Infectious Fumes may mix by Inspiration with the *Lympha* in the *Lungs*; and with it pass by the Lymphaticks of the *Lungs* into the *Blood*, which is coagulated by them.

It is not so probable that Infection is propagated by the Spittle, being Infected, because the Digestion in the Stomach alters the Texture of Animal Liquors; and consequently their Poysonous quality: and thereby Oyl of *Vitriol*, *Milk*, and other Liquors, which Poyson an Animal, being injected into the *Veins*, are made Innocent by passing thro' the Digestions of the *Stomach*.

The Cure of *Corrosive Poysons* in general, is,

1. To Vomit up the *Poyson* immediately by Oily Vomits; as, *Ol. Olivarum*, *Amygdalarum*, *Butyrum*: And those *Poysons* which dissolve in Water, may be Vomited up by warm Water plentifully taken, as in Sublimate; but Oyls best dissolve *Corrosive Sulphurs*.

2. Oily Mucilaginous things are necessary to purge downwards the *Poyson*, if it be in the *Guts*; as *Cassia*, and lenitive Emollient Oily Clysters.

3. Muci-

3. Mucilages, Oyls, &c. temper the Acrid Corrosiveness :

Lac, Juncula Pinguis, Emulfiones, Mucilago sem. Cydon. in aq. hordei, decoctum ficuum, Oryza cum lacte, Mucilago Althææ, sem. Cydoniorum, & Gum. Tragacanth. extract. cum aq. Ros. & Melle, misceantur in Electuarius, Gargarismatæ ex Mucilaginosi; fatus emollientes Stomacho applicentur.

4. Absorbers of Acids; as,
Sal Tartari, Crystallus, & Testacea, & Lixivia.

5. Proper Antidotes which destroy the Texture on which the Corrosiveness depends, and those I have mentioned.

The End of the Fifth Part.

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:
OR, THE
Touch-stone of Medicines, &c.

The Sixth Part.

A New Method for distinguishing
VEGETABLES
Into several
CLASSES,
By the Taste and Smell and their
Several Juices.

*Quot Plantarum Species extant, totidem peculiares
Succi inveniuntur. Malpighius Anatom. Plan-
tarum.*

L O N D O N, Printed in the Year, 1690.

A new Method for distinguishing Vegetables into several Classes, by the Taste and Smell, and their Oily Juices.

CHAP. I.

Of the Anatomy of Plants and their several Juices contained in their proper Vessels.

I HAVE mentioned many Varieties of Compound Tastes in Plants, and have intimated, That they depend on their different Juices, and the particular Digestions of them. I think therefore my self obliged to give some further account of the Original of these Juices, and the distinct Vessels in which they are prepared and contained, but must refer the Reader to the *Anatomy of Plants*, Written by the curious *Malpighius*, and *Dr. Grew*; from whom I have collected what I thought necessary for the Explication of the Vessels, and Juices of Plants.

Plants

Plants consist of Two Parts, *Vessels* and *Juices*; and in this they resemble Animals, which are constituted of the same parts.

First, The Ligneous Pipes which run all the length of the Plant, and constitute the Woods. These Ligneous Fibres are described by *Malpighius*, as hollow Tubes. These are placed in parcels, and by their Inclination to each other, they make a Net, whose spaces are filled by the Bladders, which are inserted Horizontally towards the Pith; and these Bladders are open into one another, and receive their Juice from the Ligneous Fibres or Pipes.

The Sap rises most apparently by those Ligneous Pipes, which stand in a ring betwixt the Wood and the Bark, and others standing near the Pith; these are called the *Lymphatick Vessels*, from the crude Juice they contain.

The Wood consists of these Antiquated *Lymphaticks*, which grow every Year; and by the woody Pipes, the Sap rises only in the Spring, but more constantly and plentifully by the *Lymphaticks*.

These *Lymphaticks* are in all Plants, because there are Ligneous Parts, which are hollow Pipes.

The Juice of these *Lymphaticks* may be gathered in the Spring, by tapping of *Birch-Trees*: this may be collected in great quantity, in a small time; and that quantity of Sap was necessary for the Increase of the Tree, the Leaves and *Fulus*, which annually grow.

This

This Sap is not the proper Oyly Sap of the *Birch*, because this rises in the Spring, and has not had sufficient time to be digested into an Oyly Gum or Resin: Such as is that Juice which gives a Bitterness to *Birch-Bark*. Neither is this Sap of *Birch* a pure Elementary Water, because it tastes Sweetish, and looks Milky as *Chyle* does.

In this Sap is a mixture of the Vegetable Principles; and therefore after the Distillation of *Birch-Water*, a Resinous Sediment is left, as *Etmuller* observes. This Liquor turns sowre with keeping; and by Fermentation it becomes Vinous.

This Sap is the most crude Juice of Vegetables, as it is separated from the Earth by the Ligneotis Pipes, which perform the Office of Lacteals in Vegetables; and therefore this Sap may be called the *Lymphatick Chyle* of Vegetables.

The Lacteals in Animals, are properly *Lymphatick Vessels*, in which both *Chyle* and *Lympha* are contained.

The Coats of the Root strain this Juice from the Earth.

This ascends by the pressure of the Air externally; by the Spring of the Air included in all Liquors; by the Fermentation of the Juice, or Rarefaction of it by the heat of the Sun: and the ascent of the Sap is much facilitated by the Inclination of the Fibres.

The Principles of Vegetables must be looked for in this sweet Lymphatick Liquor; for from this
all

all other Juices are Fermented and Digested, and they can therefore acquire no other Principles than those contained in it.

1. This *Lympha* has Water very plentiful to dilute the Oylly and Gummy part.

2. By the Sweetness an Oylly part may be observed, which may be further digested into *Oyls*, *Gum*, *Resins* or *Turpentines*; for all other Tastes in Animals arise from sweet *Chyle*, and the same may be asserted to arise in Vegetables, from a *Lympha* which is in all Plants sweet, more or less.

3. The Acid appears in this Juice, by keeping of it; and this may be called the *Tartar* of Vegetables; in Acerbs it is most crude, in the Acid Acrid most Volatile.

4. The Viscidity or Mucilaginous Sliminess helps the dissolution of the Oyl in the *Lympha*, and hence is the nutriment of each Plant prepared, to increase its solid parts.

These are therefore the Four only Principles of Vegetables, differently digested in their several Species, and varied by the Oylly Juices of the Seeds, which ferment the *Lympha* into a particular Vegetable nature, and raise the Oyl of the Lymphatick nutriment, to the same state of Volatility, and the same Texture as the Seed has.

Secondly, The soft Cortical Pulpy part of Vegetables is a heap of Bladders, and into these the Ligneous Fibres or Pipes empty their Lymphatick Juice, where

where this crude Juice is deposited, that it may be Fermented into the Taste of that particular Plant. These Bladders are like the Stomachs in Animals, which, by Fermentation, change the nature of Vegetable Food into the Texture of Animal Juices; so the Bladders in the Seeds of a Plant, and all other parts contain some digested Juice, which Ferments the new Lymphatick Liquor of Plants, and prepares it for its change from a Mineral Juice, into the nature of a Vegetable.

In *Malpighius's* description of Galls, there is an exact description of the rise of the Bladders from the Ligneous Pipes; and we may observe that the Parenchymous Bladders contain the most crude Juices: So in unripe *Oranges* and other Fruit, as *Berries* and *Nuts*, whilst unripe, there is an austere Juice, and this austerity may be observed in all the parts of the Plant. Whence we may observe, That the same Juice is received into all the Bladders at first; but by ripening, which is a long digestion by the heat of the Sun, the Juice in the Bladders of Fruits ferments, by which the austerity or Bitterness turns into Sweetness, as in *Nuts*; and the acerbity, as appears] in *Plumbs*, into a Vinous Sub-acrid Taste.

Malpighius observes, That the Bladders are reticularly inosculated, and open into one another; from whence we may conceive how the Sap which rises by the Ligneous Pipes, may sink or descend by the Bladders towards Winter, when the heat of the Sun is wanting, for the keeping it up in its higher Vessels.

The

The reason why the Roots, Seeds, and Bark taste differently from the Leaves of some Plants, as in *Barberry-Tree*, *Vines*, &c. is, because the bitterness of the Bark depends on the Oily Vessels, which are there very plentifully, and probably obscure, or else change the acerbity of the Juice in the Bladders; but in the Leaves the Oily Specifick Vessels are few; and cannot therefore change the Taste of the Sourness in the Leaves.

When the Juices of Vegetables, contained in the Bladders, have fermented, by the Virtue of their original Liquors, contained in the Seed, or by the relicts of the former digestion in the Bladders of the Plant, then the Oily Juice is prepared for the Specifick *Turpentine* Vessels, and the remainder of the Juice in the Bladders is Acerb: So Wines deposit their *Tartar* by Fermentation; and an Acidity is produced in the Mass of Meat fermented in the Stomach; and Acerbity differs from *Tartar* by being of a greater Astringency, and a cruder sour Taste.

From hence it appears, That we find all Acerbity only in the Juices contained in the Bladders, and not in the Specifick Vessels: So in Animals, we taste the Acid most evidently in the Stomach, but obscurely in other places.

As to the austere Taste of Plants, it is a composition of a low Bitter, which is mixed with an Acerbity; and this compound Taste is lodged in the Bladders, when there is a higher Bitter in the Specifick Vessels, but in austere Plants, the Acerbity

is

is in Bladders, and the low Bitterish Taste is in the Specifick Vessels.

A crude Juice is observed in the Bladders of *Chickweed*, &c. and from thence is the crude Taste, from the Indigestion of its *Lympha*.

A Mucilage is observed in the Bladders of *Mallows*; and therefore, thence a Sliminess may be tasted, as well as from the Muciducts.

The great Sweetness in the *Femil*-Class shews that the Bladders are full of that Juice: and since the *Lympha* of Trees tapped is Sweetish, it is probable that this *Lympha* in Plants is Sweetish, and that it is immediately carried into the Bladders.

Thirdly, The Bark contains other proper Vessels, which are called the *Specifick Vessels*, and may be called the *Oily* or *Turpentine Vessels*, because *Turpentine* is that *Oily* part of *Vegetable Juices* which is digested or changed from the Mineral *Bitumen*. And we find in *Turpentine* all these Tastes, as a Gum or Slime, a Bitterness, an Acrid, and out of it is prepared an *Oyl* or *Resin*; and in *Aromatick Turpentine*s, as *Juniper*, there is a Sweetness; and in *Cedar* there is a Corrosive Acrid. Because all these Tastes are observable in *Turpentine*, and that is the most common *Oyl* of *Vegetables*; I take the liberty of naming these Vessels the *Turpentine Vessels*, or *Oily Vessels*; but for distinction sake, I will give more particular Names to each Vessel, from their Juices.

1. The *Muciducts*, in which a Mucilage or Watry Gum is contained ; and these differ only in consistence, Gums being thickned Mucilages : These Vessels are observed in *Mallows* ; and it is digested from a Slime in the Bladders.

2. *Sweet Sap Vessels*, such as is in the *Pea-Tastes*, as in *Liquorish* ; this is digested from a Slime, observable in all Leguminous Plants, by rubbing them.

3. Vessels containing a Bitterish Acrid Milk, which dries into a Gum, as in *Cichory*, and then it burns like *Turpentine*, which is a sign of their Oyliness.

4. Vessels containing Acrid Juices, Bitterish, as *Oelandine*, and the *Cresses*.

5. Corrosive Acrid *Milk Vessels*, as in *Spurge*, which inspissate into a Gum, as *Cambogia* ; or a Resin, as *Jalap*, *Scammony*.

6. Balsamick, Aromatick, or Fetid *Milk* or *Balsam Vessels*, in the *Umbelliferous* Plants.

7. *Common Turpentine Vessels*, in *Pine* and *Firre*.

8. *Resinous Turpentine Vessels*, in *Rosemary* and *Sage*, and other Bitterish Aromaticks.

Malpighius has very clearly described these *Vessels*, as mutually inosculated ; which evidently appear by the bloody colour in those of an *Artichok* : And in another Plant he shews the *Specifick Vessels* spread over the *Bladders*, and mutually inosculated ; and from the structure it appears, that the *Specifick* or *Turpentine Vessels* receive their *Juices* from the *Bladders*, and terminate in the *Seeds* ; the *Chives* and

and Terebinthinate *Fuſgi globuli*, or *Papillæ* of the Plant. He obſerves, That where the *Juices* of *Vegetables* are very clear, and do not inſpiſſate into a *Gum*, they cannot well be diſcerned by his Glaſſes: but they may be deſcribed by the Taſte and Smell, (as I believe.)

When the *Juice* in the *Bladders* is fully digeſted, it is ſtrained into the proper *Oily Terebinthinate Veſſels*: for by digeſtion it acquires a particular Texture fit for Secretion; and the *Bladders* reſemble the *Glands* in *Animals*, which are *Folliculi membranacei*.

The *Juices* in the *Bladders* are like the *Blood* in *Animals*, from whence other Humors are ſtrained; and theſe *Oily Juices* may be compared to the Humors ſeparated from the *Blood*, as, *Spirits*, *Seed*, *Choler*, &c. by the *Glands* or *Bladders* of Plants.

Theſe proper *Oily Juices* are deſigned for the production of the *Oylineſs* manifeſt in all *Seeds*, which have the ſame Taſte as theſe *Juices*: and as *Seeds* have their *Veſſels* and *Juices* from the *Veſſels* and *Juices* of Plants; ſo Plants have theſe *Juices* and *Veſſels* originally, from the *Veſſels* and *Oylineſs* of the *Seed*; and alſo the other *Juice* of the *Bladders*, which is the loweſt digeſted in the *Seeds*.

Theſe proper *Juices* are nothing but the *Oyl*, *Acid*, and *Viſcid* part of Plants, under ſeveral *Digeſtions* and *Mixtures*. As the *Blood* makes *Blood* in *Animals*, ſo in Plants the original *Juices* digeſt or ferment the new *Nouriſhment* into particular ſtates.

1. In crude Plants there is little or no Digestion, and therefore little distinction of Juices; and therefore it is not improbable that there are no *Turpentine* Vessels, unless for the strength of the Plant.

2. In Mucilaginous Plants the Oyl is a little separated, but yet continues diluted, by much Water; in *Gums* the Water is less, and the Earth most.

3. In the sweet Leguminous, the Oyl is still mixed with much Mucilage.

4. In the Aromatick Sweet the Oyl and Acid is well digested, and diluted with Water into a smooth grateful Texture in the Bladders; and from thence is separated a Milk or Balsam in the Umbels.

5. In bitter Plants the Oyl is coagulated into a Gum; in *Austringes* most, but less in the strong *Laurel-Bitters*.

6. In *Acrids* the bitter Oyl is compounded with a Salt; and a Bitterness is observable in the Bladders, from whence the *Acrid* is digested.

In *Aromatics* and *Fetids*, the *Volatile Oyl* and *Salt* are compounded; and these are digested either from a sweet or a bitter *Juice* in the *Bladders*.

In *Turpentine*s the Oyl and *Acid* are most loosely mixt; whence there is an evident *Acid*, and also a great *Astringency* in *Tutsan*, *Perfoliata*, and other *Turpentine* Plants. The Seeds of *Turpentine Nuts*, as *Pistacheos*, are Sweet; and therefore *Turpentine* seems to be digested from sweet *Juices*, Sweet easily becoming Bitter.

From

From these descriptions of the several *Juices* of Plants, the variety of their Tastes, and their several Compositions, are evident,

The Vessels of Plants can give no Taste, but that of Wood; but the several *Juices* afford us all the Compositions.

The *Juices* in the *Bladders* may be either Crude, Acerb, Austere, Mucilaginous, Sweet, or Bitterish.

The *Juices* in *Oily* or *Turpentine Vessels* may be either Slimy in crude Plants, Sweet in the *Pea-Tastes*, Bitter, Acrid, Aromatick Acrid, Fetid, or Corrosive.

These different *Juices* being always tasted in Plants, Two of them at least, must render the Tastes of all Plants compounded; but the same *Juice* may also have a compounded Taste, as some Milks of *Vegetables* are Bitter, Acrid, Gummy, and Fetid, as *Sagapenum*; and others Bitter, Acrid, Aromatick, as the Balsam in *Angelica*.

Sweet and Bitter are frequently in the same *Juice*, because Sweet easily becomes Bitter.

Bitter and Acrid are usually compounded, because Acrid rises out of Bitter.

Aromatick and Fetid are frequently mixt, both in Taste and Smell: And both Fetid and Aromatick have generally an Acrid Taste.

The Fruits of *Vegetables* and their Seeds, have usually the most compounded Tastes: So in *Ivy-Berries*, the Taste is Sweet, Bitterish, Slimy, Aromatick, and very Acrid.

The Bitter, Acrid, and Aromatick appears in the Rind of an *Orange*, from the *Oily Juice* observed in it; but the Pulp is Sweet and Sub-acid: This last is from the *Juice* in the *Bladders*; but the first from the *Juice* of the *Oily Turpentine Vessels*.

In *Barberry*-Tree a great variety of Tastes may be observed in its different Parts: The Bark is Bitter, Slimy, and Sub-acrid, from the *Juice* of the *Turpentine Vessels*, but from the Sap of the *Bladders* it is Astringent; which Astringency being further digested in the green Leaves, it produces an Acerbity; and in the Fruit, the same Acerb *Juice* is mixed with a Slime in the *Bladders* of the Fruit (for the Fruit will boyl to a Jelly) and it tastes more pleasantly Acerb, but the Seed is Bitterish Astringent: So that the Pulp of the Fruit has the *Juice* of the *Bladders*, but the Seed the *Oily Juices*; the *Oily Juice* seems the same in all parts, and gives the general Taste of the Plant; but the *Juice* of the *Bladders* is most alterable in the Leaves and Pulp of the Fruit, where it is most exposed to the Sun.

In some Plants there are more than Two *Oily Turpentine Vessels*; for in *Thistles* there are *Muciducts* and *Lacteals*; and we taste in *Thistles* a Slime besides the Bitterness: in these both the *Juices* in the *Bladders* supply proper *Oily Juices*; and by these several *Juices*, different Tastes arise.

From the Instances I have given, it appears how many Tastes may be observed in one Plant; for,
The

The *Lymphaticks* may give one Taste, as Sweetness or Waterishness.

The *Juice* in the *Bladders*, one or two, as Acid-Astringent, Austere, or Slime, or Sweet and Bitter.

The *Turpentine Vessels* may give four Tastes, as Bitter, Sweet, Acrid-Aromatick, Gummosé: So we find in *Angelica*, a *Turpentine* Balsam, which tastes Bitter, Sweet, Aromatick - Acrid, and Gummy; the *Bladders* furnish an Astringency, and the *Lymphaticks* have a sweet Waterishness: So that Plant has seven Tastes, or seven modes of Taste. And these are the most that can be observed in one *Vegetable*, but all need not be so nicely described; for its enough to discover its Vertue, by observing its Aromatick Acrid Taste, for that shews it to be a *Diuretick*, *Cephalick*, and *Cordial* Medicine, by its Volatile Oily Salt.

Fourthly, Air Vessels.

There are none of them in the Bark, but in the Wood, and therefore they are framed by the growth of the Tree, whose Wooden Pipes or Fibres, by being closely compacted by the growth of the Tree, do stop the flowing of the Sap into some *Bladders*, which therefore shrink and break into hollows. As the *Lymphaticks* lose their Office when they grow into Wood, for then the Sap rises not constantly by them, but only in the Spring; so it is with the *Air Vessels*, which are only broken *Bladders*, having lost their first use, like the Pith of

Trees, they remain empty, and only transmit a *Lympha* in the Spring, when the Woody part is full of the same.

Mr. *Lewvenhock* describes the *Air Vessels* as a large Tube filled with *Bladders*; so that they may be esteemed a small Pith, encompassed with the Wooden Pipes, and are necessary for the growth or bending of the Plant.

The Leaves of Plants have the same constituent Parts, many *Bladders* and Ligneous Pipes, which, with *Air Vessels*, constitute the great Fibres.

The *Globulets* found on the Leaves, seem to be the *Turpentine* of Plants, which transpire from its *Specifick Vessels*. *Malpighius* calls them *Papillæ*; and he observes a *Turpentine* in *Laurel*, *Cherry*, *Vine*, *Medlar*, *Poplar*, and *Quince*-leaves. These Plants being all Bitter, I may hence confirm my Opinion, That Bitterness depends on a *Terebinth*, which may be seen on these Leaves.

In *dictamno albo*, the *Terebinthinate fungi* are numerous in the Flower.

He observes a *Turpentine* on the Hairs of the Sponge of *Dog-Rose*. *Pulvis croceus in Antheris Cynobati est Sulphur Vegetabile*.

He observes *Turpentine* in the *Stylus* of *Fennil*; and in *Nettles*, *Loco styli vesicula Terebinthinâ refertur*.

In *Horminum* there are *Fungi* or *Papillæ*, which send forth that clammy Juice which is felt.

From these Observations I infer, That though
the

the Specifick Oyly Juices differ much in their natures, yet it may properly enough be called a *Turpentine*, because it appears like it in the Glasses, and gives a Bitter Taste.

The Stalk of a Plant consists of divers *Lymphatics*, and *Ligneous Fibres*, *Air-Vessels*, *Bladders*, and *Specifick Vessels*, whose Juice is more evidently tasted in the Stalk than in the Leaf.

The Fruit of some Plants consists of large *Parenchymous Bladders*, and of divers branched *Ligneous Fibres*, of a Core, Stone, or Calculary.

The Stones of Fruits are the *Bladders* filled up with an Acerb Juice, and that is coagulated into a Stone.

The Stones of Fruits are the two Membranes of the Seed, and are like the Skins of the *Ova* in *Animals*; the Juice separated into the inner Coat of the Seed, is from the proper Oyly Vessels of the Plant, whence it is Milky, and the Seed always tastes much of the Oyly Juice.

Malpighius says, The Seed is bred in the *Stylus* of Plants, which he calls the *Uterus*, as this dilates the *Bladder* in which the *Colliquamentum* lies, appears in a cavity, from whence proceed Tubes which resemble the *Cornua* of the Womb. The seminal Matter being abundant, affords the Semets or Eggs which stand upon the Chives in the Flowers; these *Globuli* are of a white, red, yellow, blue, black Colour, and are like Eggs for the Food of Insects, having the Oyly Seminal Juice of the Plant.

In

In the Seed the *Linneous Pipes*, the *Bladders*, and the *Oily Specifick Vessels* are only the elongation of the same Vessels in the Plant; and all these Vessels are filled with the *Juices* from the original Plant: These are always bred in *August*, when the *Juices* of the Plant are fully digested, and they shoot next Year from the Bud.

The Seeds of Plants have two Skins besides the Seed-Case, in which is contained a *Plantula Seminalis*, consisting of two Lobes, which grow into Seminal Leaves, and also a *Radicle* and *Gemma*; and there is in some Seeds another Pulpy Substance, which supplies the first nutriment to the Seed.

I have mentioned (in other Papers) the Equivocal generation of Insects, from rotten Wood, and putrefied Animals; and I find many Equivocal generations in Plants. In the production of *Mistletoe* the *Juices* and *Vessels* shoot into a new Plant of a different Taste and Figure from the *Crab-Tree*, on which it commonly grows; for the *Mistletoe* tastes of a *Laurel-Bitter-Astringent*, with a great Acrimony.

Moss seems to be produced from the Fibrous parts of Plants, as appears by the Roots which are Fibrous.

Mushrooms have Membranous Roots, which consist of a Congeries of *Bladders*.

Both of these arise from the corrupt *Juices* of other Plants: *Mosses* grow on rotten Wood, as Mouldiness does on Flesh Meat putrefied; and that is described as a Plant.

The

The *Juice* which produces *Mushrooms*, seems to be the fresh Nourishment which Plants receive in *Autumn*, which never arises to a higher digestion in Plants decaying, than to an Earthy Slime; and this is confirmed by an Observation in *Botanicum Monspeliense*, *Eryngii demortui radicibus elegans innascitur fungus, post pluvias Autumnales*.

I have observed a corrosive Acrid, like the *Crow-foot-Taste* in the common *Mushroom* we eat; by which it produces all its virulent Effects: And this *Vinegar* corrects in its Pickle; the Acrimony is best perceived in the Stalk of the *Mushroom*; the Acrid Earthiness is the Specifick *Juice* of the *Mushroom*, and the Slime is in the *Bladders*.

From the Acrid Taste of *Mushrooms*, I may conjecture that it springs from *Crowfoot*, which is plentiful in all Pastures.

The *Fungus Pipereus* may arise from *Hydropiper*, but *Agaricus* from the *Terebinthinate Vessels* of Trees, and such kind of *Fungi*, containing a *Terebinth*. are described by *Malpighius* in sound Plants.

The Woody *Mushroom* is from the Woody *Juice* of the Tree; and the highly Fetid from Fetid Plants, or their putrefied *Juices*.

Galls, and other Excrescences of Plants, arise from the Insertion of an Egg of an Insect, by a hole made by its *Terebra*, whose Liquor ferments the *Juices* of the Plant, and thereby causes the great swelling of that part where the Egg is lodged; so the Eggs of Flies seem to putrefie Flesh Meats, on which they are left by the Fly.

C H A P. II.

Of the several Classes of Plants, as they are distinguished by their Tastes and Smells.

SINCE all the *Juices* of Plants, and their several Compositions, may so easily be discerned by the Taste, and the several states of their Digestion by the Smell, I will endeavor to reduce them into a few *Classes*, by those Tastes and Smells I have observed in Plants.

The Taste of the *Juices* in the *Bladders* of Plants is most apt to vary, and to be higher digested in the Fruit and Leaves, than in other parts; and therefore I shall not distinguish Plants by any of the *Juices* of the *Bladders*, but by that of the Oily Specifick *Terebinthinate Vessels*, which are constantly of the same kind in all the parts of Plants; tho' in some they are in a small number, and in those the *Juices* of the *Bladders* obscure the Oily *Juice* as to its Taste. It may be that the *Juice* may receive some little alteration by being exposed to the heat of the Sun, in some parts more than others, tho' this would appear unusual, that a different *Juice* should be in the same kind of *Vessels*.

This Oily *Juice* is the most constant, and the highest

highest digested *Juice* in *Vegetables*, containing also the chief Vertues, and the highest Smells.

I shall endeavor to distinguish Plants by the tastes of these Oily Substances, and I will therefore make no distinct *Classes* of the Watry *Juices* and Tastes, because their Specifick *Juice* is a Slime or Sweetness, to which Tastes they must be referred.

Neither will I make distinct *Classes* of Acids, Acerbs, and Astringents, because they are compounded with a low Bitterness in their Taste; and the Bitter or Austere is their Oily *Juice*. The taste of Acid, Acerb, and Astringent, are from the *Juices* in the *Bladders*. I therefore refer the Acid, Acerb, and Astringent Tastes to the *Class* of *Austeres*, which are Bitterish; and by them I may sub-distinguish some of the Bitters.

The distinction of Plants into *Arbores*, *Frutices*, and *Suffrutices*, is sufficiently confuted by the *Anatomy of Plants*, which discovers the same Woody *Vessels* in all alike.

I will not make any Objection against any Method used by any other Author, lest I reflect unwarily upon their Opinions, who are better Skilled in *Botanicks* than my self; and to whose Writings I am very much obliged. I will therefore only intimate the usefulness of my Method.

I. I refer all Plants to the same *Class* which have the same sort of Oily *Juices*, and thereby their Virtue will more readily appear : and Plants of different

rent Natures will not be placed together, as *Bellis Major* and *Minor*, which extremely differ in their Tastes, as *Docks* and *Hellebore* do, and *Blitum* and *Botrys*; neither can *Valerian* be placed with the *Umbels*.

This Method of Classing by the Taste, will decide many disputes about the placing of Plants; as for Example :

Nasturtium Indicum, by the Flower, is like *Larkspur*; by the Leaf, *Navelwort*; by the Climbing, *Convolvulus*; by the Seed, *Heliotropium* : By these accidents an Herbalist doubts to what *Class* to refer it : but the Taste soon decides the Controversie; for by that it is a *Cress*, and properly belongs to that kind by its Vertue.

Bardana is a *Thistle* by its Taste; but *Eryngium* is none.

II. By this Method the *Classes* of Plants are but Seven *summa genera*, and to them I will add one *Class* of Imperfect Plants, which have but one Taste, and no distinction of *Juices* considerable; as,

I. The Gritty, the Woody, and the Woolly Tastes, which I call Earthy Tastes, because that Principle prevails most in them; and from that, they taste dry and hard.

I refer *Mosses* and *Mushrooms* to the same *Class*, because they have a strong Earthy Taste and Smell, though they have a distinction of *Juices*, very probably, as appears by the Astringency which fills the
Blad-

Bladders, and the Acrimony which may be in *Specifick Vessels* of *Mosses*: And in *Mushrooms* the Slime fills the *Bladders*, and the Acrimony is in the *Specifick Vessels*; and therefore *Mosses* and *Mushrooms* might most properly be referred to the *Fetid Class*; but I place them here, because their Earthy Taste is very remarkable; and in this I follow the usual Method.

In the Woody Tastes, the Acerb Juice in the *Bladders*, which tastes Astringent, is turned into Wood; and therefore Wood distilled yields an Acid Liquor, and very little Oyl, if the *Resins* and *Turpentine*s be dissolved from the *Specifick Vessels* before distillation.

The First CLASS.

Of Plants of an Earthy Taste or Smell.

First, **O**F those which taste dry and hard, and have but one Taste.

Secondly, Of those which have a distinction of Juices, with a savour of Earth.

The Sub-alternate Species of Earthy Tastes, are,

I. Gritty Vegetables.

II. The

II. The Woody.

III. The Woolly.

IV. The Mossy, having the flavour of common Mould, or the Mouldiness of Woods.

V. Very Fetid Earthy.

First, Gritty Tastes in petrified Plants; as,

1. *Corallium*, which smells of *Moss*, being ground to Powder, and before petrification it has an Astringent Milk; and therefore *Coral* was a perfect Plant, having distinction of *Juices* before Petrification, but the Acerb *Juices* are easily petrified.

And *Malpighius* has mentioned the Acerb *Juices* of an Oak and *Poplar*, coagulated into a Stone in the *Bladders* of those Plants; and that these Stones are of the Figure of a Die.

By this we observe how little Wood and Stone differ, both being made out of the same *Juice*.

The External accident whereby *Coral* may be distinguished from the following Plants, is the branching of it self like a Tree.

2. *Pori* which, as Mr. Ray mentions, differs by the Porosity from *Corals*.

3. *Eschara Marina* which resembles Leaves:

4. *Fungi Lapidei* resembling *Mushrooms*.

5. *Corallina* which has a strong Mossy and Earthy Smell; the inward part is Ligneous.

I have mentioned the several accidents whereby the Individuals under Gritty Tastes might be distinguished, that my designed Method might be better

better apprehended, for I would have Plants in general, first distinguished by their manifest Tastes and Smells; and then the Individuals distinguished by their external accidents of Colour, Figure, number of Seeds, &c. And hence the *Reader* may be satisfied, That if Plants were clearly distinguished by their Taste, where there is but one, or by the Only Specifick Taste, where there is a distinction of Juices: a long description of external Accidents is not necessary, but some one obvious Note may distinguish each Individual, under each Species.

Secondly, Woody Tastes; as,
Flabellum Marinum.

Thirdly, Woolly Tastes, as in a *Sponge*, which has a Fistulous Substance, and grows on Stones, and is a *Mushroom* according to Mr. Ray, *Mucagine quadam Membranea vestita*; by which it is Conglutivative in Wounds, when fresh: *Galen* says, It smells of the Sea, by which it is discussing; the old *Sponge* has not the same Vertue; burnt *Sponge* smells like burnt *Bones*. Dr. Grew affirms, That *Sponge* has no Ligneous Fibres, but only the Pithy Bladders; and therefore it is but half a Plant.

Fourthly, Plants of an Earthy or Woody Smell and Taste.

I. Of a dry Earthy Taste as *Mosses*, which have other Tastes mixt with their favour of Mould.

1. A Bitterish Astringent Acrid Taste, with a pungent Smell; as,

Muscus arborum, *Querci*, *Mali*, *Alni*, &c. *Muscus Pyxidatus*, which has a Red Flowre in the Cups.

2. A Sweet Rough Taste; as in

Lichen cinereus terrestris, and *Adiantum aureum*.

These two first Species smell of Wood.

3. A very Crude Rough Taste, with a smell of Mould very strong;

Muscus communis viridis, and *Muscus ex Cranio*.

4. With a Bitter Sub-acrid Taste Terebinthinate; and also a smell of Mould:

Hepatica Terrestris.

II. Of a stronger and more violent offensive Fetid Earthy Smell, which is produced from some Oyly Specifick Juice in *Mushrooms*, different from their other Tastes, by which they must be sub-distinguished.

1. *Mushrooms* of a Slimy Taste, and also of a Corrosive Acrid, with an Earthy Smell; as,

Fungus esculentus.

2. Of a Pepper Acrimony in its Milky Juice; as,

Fungus pipereus.

3. Of a dry Dust, which is Corrosive to the Eyes, and stops Bleeding:

Fungus pulverulentus.

4. Of a Woody Taste; as,

Fungus Quercinus, *Betulaceus*, *Fraxineus*.

5. Of a Sweet Bitter Acrid Slimy Taste:

Agaricus.

6. Of

6. Of a Sweetish Taste and Goatish Smell:

Tubera edulia.

7. Of a Sweet and Rough Taste:

Tubera Cervina.

8. Of a Slimy Taste, with a mixt Smell of Earth and Wood:

Fungus arborum putrescentium.

9. Of a Carrion Putrid Smell:

Fungus Phalloides. Dr. Plott.

10. Of a Slimy Fetid, with an Elder-Smell:

Auricula Juda, five Fungus Sambucinus.

The Second CLASS.

*Of Plants which have a Watry Gum
or Mucilage, for their Specifick
Oyly Juice.*

Mucilaginons Plants have their *Lympha* digested in the Plant-Bladders, into a Sliminess, which is thence separated into the *Mucidusts*; which Dr. Grew has described in *Elm* and *Mallow-Roots*: but there is a Bitterness in many Mucilaginous Plants; the Vessels in which this Bitter Gum is contained, he has not described:

in *Holly* and *Elm* he has mentioned the *Muciducts* and *Lymphaticks* only; but in *Carduus* three sorts of Vessels are described; *Milk Vessels*, which are the Bitter Gum Vessels, and give the Bitterness in its Taste; and two sorts of *Lymphaticks*, the one contains the common *Lympha*, but the other probably the *Mucilage*; for *Carduus* has a Slimy Taste.

The *Mucilage* is evident in the Bladders of *Mallows*; and less of it in the Bladders of *Borage*; by which Instances it is evident, that the *Mucilage* is there prepared before it be strained into the *Muciducts*.

The *Mucilage* in these Plants exceeding the other Oily Juice, being also a Gummy Bitterish Milk probably: I refer these Slimy Bitterish Plants to this Class.

Mucilage contains these Principles, much *Water*, some *Oyl*, *Acid*, and *Earth*, and these have a low state of digestion; in which, though they be of a looser Texture than in the former Class, yet they are not generally so far volatilized, as to send out *Effluvia* for affecting the Smell.

Mucilaginous Plants taste Slimy, and there are these Subordinate Species of Slimy Tastes.

1. Crude Watry Slimes.
2. Sub-acid Slimes.
3. Bitterish Sub-acrid Nauseous Slimes, or Orach-Slimes.
4. Nitrofe cool Slimes.
5. Pure Mallow Slimes.
6. Borage Slimes.

7. Elm

7. *Elm* Slimes.
8. *Melon* Slimes.
9. Sweet Slimy *Bulbes*.
10. *Lily* Slimes.
11. Nauseous and very Acrid Slimes, or *Hermodactyl* Slimes.
12. Slimes with a *Walnut* Flower, or *Cress* Slimes.
13. *Violet* Slimes.
14. *Bindweed* Slimes.
15. The *Pea*-Taste.

I. Watry Slimy crude Plants, with a raw Smell:
Alfne vulgaris, *Spergula*, *Lenticula Palustris*.
These are *Chickweed* Slimes.

II Watrish Slimy Sub-acid Plants, or *Spinage* Slimes:
Spinachia, *Blitum*, *Atriplex Hortensis*, *Baccifera*, *Mercurialis Hortensis*.
Spinage has sweet Roots, fit for Physical use.

III. Mucilaginous, Bitterish, Sub-acrid, Nauseous,
or *Orach* Slimes :

Atriplex vulgaris, *Bonus Henricus*, *Amaranthus*.

IV. Watrish, Slimy, Cool, or Nitroſe Slimes :
Beta alba, *rubra*.

V. Pure Watry Mucilages in the Leaf, Flower, Seed, and Roots, with a little Sweetness in the Flower, and a latent Acrimony in the Plant. These may be called *Mallow* Slimes.

Alcea, *Althæa*, *Malva Arborea*, *Althæa arborescens*.

VI. Grateful Bitterish Sub-acrid Slimes ; or *Borage-Slimes* :

Echium, Buglossum, Borago, Pulmonaria maculosa, Parietaria.

Symphytum, whose Taste is more Gummy and Mealy.

VII. Mucilaginous Barks a little Bitterish and Astringent ; as *Elm-Slimes*.

Ulmus, whose Seed is Sweet ; *Ulmus latiore folio* is *Wych-Hasle*, which is an *Elm* in Taste and Vertue.

Tilia, which is Bitterish, Sweet, Astringent, and Sub-acrid, besides the abundant Slime : The Fruit is said to be Sweet, and the Flowers are Fragrant.

VIII. Crude Slimy Flowers, Leaves and Seeds, with a Bitterish, Sweet, Slimy, Mellowy Fruit, or *Melon-Slimes* :

Cucurbita, Pepo, Citrullus.

Melon has a Smell of *Musk* ; also *Cucumis* has a Bitter Sweet Stalk. The small green *Cucumbers* smell like *Tallow*. *Melon* Stalk is Bitter Sweet, very Nauseous, and Sub-acrid and Purgative.

Wild Melons, Pumpions, Wild Gourds, &c. are said to be very Bitter, like *Coloquintida*, and *Cucumis Asininus*. *Quære*, Whether they are referible to the Class of *Bitters*, or here to be placed as Sweet, and strongly Bitter Slimes ?

IX. Sweet Slimy *Balbes*, which seem to belong to the Sweet Grassy Class.

1. *Crocus*, with Fetid, Slimy, Sub-acrid Flowers ; and Grassy, Sweet, Acrid, Green, Slimy Leaves.

2. *Crocus*

2. *Crocus Fl. Cæruleo*, is Sweet, Slimy, and Sub-acrid; the Flowers inodorous, and the Leaves have a Grassy Smell and Taste.

3. *Tulipa*, it has sweetish Leaves and Stalks, with a great Slime: *Ornithogalum luteum* is described as Sweetish Slimy.

X. Mucilaginous Bitterish Roots, with a *Lily*-Fragrant Smell in the Flowers, or else a Fetid.

1. *Lilium commune* with Leaves of an *Elder*-smell, and faintly sweet Flower.

2. *Pseudonarcissus* with the green Leaves of an *Elder*-smell, and Flower smelling like *Jasmin*.

3. *Hyacinthus Anglicus*, whose green Leaves smell like *Elder*, and the Flowers have a *Lily* sweetness.

4. *Hyacinthus Botroides* is Slimy and Bitter in the Root.

5. *Orchis* has Leaves of a Goatish Smell; and the Flowers smelling somewhat like the *Lily* kind.

6. With a Fetid offensive Smell in the whole Plant; as, *Martagon*, *Corona Imperialis*, which smells like a *Fox*. *Fritillaria*, which is very Fetid.

XI. Mucilaginous, Bitter, Acrid, Nauseous, and Fetid Roots;

Leucoium præcox minus, *Asphodelus*, *Ornithogalum vulgare*, *Scylla*, *Hermodactylus*.

Anglicum Colchicum is very Acrid in the Stalk, and the Root is Fetid Milky; by its strong Acrid it vomits, and causes a Strangulation. It is used by

the Country People, in Powder, for *Scald-Heads* and *Lice*.

Helleborine and some other *Orchides* are Sweet, Bitter, Nauseous, Slimy, and Acrid. *Quære*, Whether white *Hellebor* be of this *Class*?

XII. Slimy, Bitterish, Sub-acrid Roots, of a *Walnut* Flavor, whose Flowers smell of a mixt Smell, of *Lily* and *Cresses*:

Nymphæa fl. luteo & albo.

Quære, Whether these may be referred to the *Cress-Taste*?

XIII. Mucilaginous Bitterish Leaves, with Flowers of a Fragrant Smell, and Sub-acrid Taste.

The *Violet-Roots* taste Bitterish Sub-acrid, with a *Violet* Flavor; by which they are Diuretick and Purgative. *Quære*, Whether this ought not to be referred to the *Bitterish Acrids* of a *Fragrant Smell*?

These are the *Violet-Slimes*:

Viola Martia, Tricolor, Polygala, Pinguicula.

XIV. Mucilaginous, Bitter, Sub-acrid Roots, which are Purging.

Convolvulus major, minor; Soldanella.

Bryony seems to belong to this *Class*, and *Aristolochia*, or to the *Bitter*.

Note, If Mucilages be only Bitterish and Sub-acrid, they maybe Classed here, or else amongst the *Bitters*, according to the Taste which prevails in the Specifick Juice.

XV. The

XV. The *Pea*-Tastes, or Slimy, Sweet, Leguminous Plants.

These Plants bleed slowly upon cutting; they have Lymphaticks, from whence their Waterishness is tasted; and they have a Sliminess in the Bladders, from whence a sweet Liquor is digested, and an Oyliness, which is evident in the Smell of the Flowers of that *Class*. The *Pea*-Tastes are in a state of digestion, betwixt Mucilages and sweet Tastes; for their Taste seems to partake of both Sweet and Slimy.

I can observe very little from these *Plants*; *Anatomists*, about the proper Vessels of *Asparagus*, observe only the *Lymphaticks*, and the large *Parenchyma*; but it is certain that there are some proper *Gum Vessels* or *Milks*, which give the Bitter Acrid Taste in the Roots; and therefore the *Pea*-Taste is from the sweet Mucilage in the Bladders. The Roughness in this *Class* is from the Juice in the Bladders, as in other *Classes*; and the *Pea*-Taste in some of these Plants, is the proper Specifick Oily Juice; but in others it is higher digested into a rancid Oyl, or a Bitter Acrid Taste, which is compounded with the *Pea*-Tastes.

Malpighius observes, That in cutting the Stalk of the Seed of Fermenting *Beans*, *Conclusi utriculi humorem fundunt Terebinthinæ analogum*. And he also observes, That there are proper Vessels in *Peas*.

The Mucilaginous Sweet, or *Pea*-Tastes have much of a *Linseed* Oily Smell in the Flowers, or a great Fragrancy.

Gum

Gum Tragacanth is the Gum of a Leguminous Plant; and the Mucilage in this *Class* is not unlike it.

The Species of the *Pea-Tastes*, are,

1. The Mucilaginous, Sweet, or ordinary *Pea-Tastes*.

2. The *Bean-Tastes*.

3. The Rough *Pea-Tastes*.

4. The *Fumitory* Bitter *Pea-Tastes*.

5. The *Asparagus Pea-Tastes*.

6. The *Lily Pea-Tastes*.

7. The *Broom Pea-Tastes*.

8. The Fetid *Pea-Tastes*, or the Aromatick.

9. The Acrid *Pea-Tastes*.

I. The Mucilaginous sweet *Pea-Tastes* :

Pisum arvense, *Cicer*, *Lathyrus*, *Glycyrrhiza*, *Cytisus pedicularis*, *rubra*, *Herba viva*.

II. Mucilaginous, Sweet, inclining to Bitter, or *Bean-Taste* :

Faba, *Phaseolus*, *Lupinus*, *Orobus*, *Anthyllis leguminosa*.

Trifolium Palustre tastes Sweet and Bitter, like a *Bean*, inclining to the *Laurel-Bitters*; by its Bitter Astringency it cures Putrid Gums, and Ulcers in the Scurvy, if it be used in Decoction or Syrup.

Trifolium Fibrinum, in *Bonetus*, is said by *Tiltingius*, *ipsam aloem respicere*; but by *Ettmuller* it is described, *Saporis acris instar Piperitidis*; therefore these

these Authors mean different Plants by *Trifolium Fibrinum*.

III. The Rough Pea-Tastes :

Hepatica nobilis, *Barba Jovis*, *Vicia vulgaris*,
Arachus, *Ornithopodium*, *Trifolium lupulinum*,
Trifolium hirsutum, *Lagopoides*, *Lagopus*, *Trifolium foliis purpureis*, *Trifolium filiquosum*,
Trifolium pratense, Fl. albo & luteo. *Herba humilis*, *Acacia* is a leguminous Astringent.

IV. With a Bitterish, Sweet, Sub-acrid Pea-Taste in the Roots and Leaves.

Aquilegia, the Leaves have a Roughness.

Consolida Regalis, *Fumaria*, *Thalictrum*.

Meadow-Rue smells Fetid, something like *Rue* ; in the Root it is not unlike a *Dock-Bitter* ; in the Leaves it is Sweet and Rough.

V. With Sweet, Bitter, Acrid Roots and Berries, of a Sweet Slimy Pea-Taste, as *Asparagus* and *Ruscus*.

VI. Sweet, Slimy, Bitterish, Sub-acrid Roots, with Berries of a Sweet, Slimy, Acrid Pea-Taste.

Polygonatum, whose Berries are Sweet and Slimy, like the Pea-Tastes, and Sweet Sub-acrid in the Seeds, the Leaves are Rough, the Roots taste Sweet, Acrid and Slimy : This is therefore of the Pea-Class, as well as the following :

Unifolium.

Lilium Convallium, whose Flowers are Fragrant ; but the green Leaves of the Taste and Smell of the Pea-Class.

VII. The

VII. The strong Bitter Sweet *Pea*-Tastes, with a manifest *Linseed* Oyly Smell in the Flowers, as *Genista vulgaris* & *spinosa*, *Spartium*, *Genista aculeata*, *Anonis*, which has a Goatish Smell in the Leaves, &c. and the Roots taste like *Brome*.

These are the *Brome Pea*-Tastes.

VIII. Bitter Sub-acrid *Pea*-Tastes, Fetid.

1. With an Oyly Smell like *Linseed*:

Sena, *Collutea*, *Anagyris*, *Fænugræcum*, *Linum*; *Psyllium*, de quo quære.

2. With an *Elder*-Smell:

Linaria, *Antirrhinum*.

IX. The strong Acrid *Pea*-Tastes.

1. Of a *Pea*-Smell:

Melilotus, *Trifolium luteum*, *Galega*, *Pedicularis fl. flavo* & *Palustris rubro*.

Perficaria filiquosa is of the *Pea*-Class, Sweet and Acrid.

Trifolium odoratum has a mixt Smell.

Trifolium Bituminosum smells like *Bitumen*.

2. Of a sweet Smell in the Flowers:

Jasminum, *Periclymenum*, *Lilac*, *Syringa*, fl. albo, *Trifolium purpureum*, *pratense*.

Jasminum, the Leaves taste Sweet and Bitter, like the *Pea*-Class.

Lilac tastes Sweet and Bitter, and has Cods, whereby it is of the same *Pea*-Class.

Jalap is said to be an *Indian Jasmin*; and there are many other Exotick purging *Legumens*, as *Siliqua arborea*, which is of a sweet *Pea*-Taste, Purging.

Collutea

Collutea Vescicatoria Purges. *Cassia Fistula* is of the *Pea-Taste*; the Pulp is described to have some Aromatick Acrid, besides the sweet Acid *Prune-Taste*; and the Bark is Bitter Astringent.

Tamarinds is a *Siliquose-Tree*, of which we use the Fruit.

The colouring Exotick *Legumens* are of this *Class*.

Lignum Nephriticum is described of the *Pea-Class*, and it tastes Bitterish and Acrid, by which it is Diuretick.

Acacia tinctoria, *Logwood* is a Bitter, Acrid, Leguminous Tree, and the Flowers of a sweet Odor.

Brasilea arbor is of the *Pea-Taste* Astringent.

Indico is also of the *Pea-Class*, by its Slime.

Our Native colouring Plants are also of the *Pea-Class*, as *Yellows*. I doubt whether *Woade*, *Ophioglossum*, and *Luteola* ought not to be placed here.

Ophioglossum colours Oyl green; it tastes Sweetish and very Acrid; it feels Slimy being rubbed. *Pinguicula* colours, and is Bitterish, Slimy, and Sub-acrid.

Since there is so much Oyliness in the Plants which are of this *Class*, it is most likely that the colors these produce are from their different Oily Particles.

Curcuma has a Bitterish Acrid Slime, and Colors.

Sarsaparilla has a moderate Acrimony to cause Sweating, and also a Mealiness to temper Humors: This seems to make it of the *Pea-Class*, for Mealiness is a dried Mucilage, and many Mucilages taste Mealy.

The

The Third CLASS.

Of Plants of a Sweet Taste.

THe Plants of this *Class* have their *Lympha* somewhat Sweet, as in *Parsneps*, which being farther digested in the Plant-Bladders, into a more Oily Juice, is separated into the *Turpentine* or *Oily Vessels*, though those are not yet observed by the Anatomists. In the sweet Juices of these Plants the Oyl and Acid is well digested with the Water and Earth into a smooth or pleasing Texture: These Sweets give a small Fragrancy from the Oily Juice in their proper Vessels. And by this degree of Fragrancy we know that the Plants Oily Juice is but moderately digested, and is most temperate, like Sweet Tastes themselves, which are most agreeable to *Animal Humors*.

Malpighius has observed in the Flowers of *Corona Imperialis*, *Lilium Persicum*, and *Digitalis*, a Sweetness, like *Honey*. And the like I tasted in the Flowers of *Melanthium*, and other Flowers; so from the like Specifick Juice, Sweetness may be produced in all Plants: And he affirms, that, *Melleam hanc Substantiam non exterius advenire, sed ex succo interius concocto provenire.* Anat. Plant. p. 41.

Honey

Honey tastes Sweet, Slimy, Sub-aromatick, Sandy, and a little Rough; it may be the Juice of *Vegetables*, gathered from the *Globuli* in the Flower.

It yields too much Acid for an Animal Juice, and no Volatile Salt like the Animal Humors, which are not so sweet as *Honey*. It may be boyled into a Gum.

That Sweetness may be a Specifick Juice, appears by *Manna*, which flows from the Leaves of a Tree. *Sarcocolla* has a Sweetness, and is a Gum: And likewise *Sugar*, which is the Juice of a Reed.

The Species of Sweet Tastes, are,

- I. *Grassy Sweets*, or *Astringent Rush Sweets*.
- II. *Corn Sweets*, very Slimy or Mealy *Sweets*.
- III. *Sub-acrid Sweets*, like the *Rampions*.
- IV. *Aromatick Sweets*, like *Parsnep*.
- V. *Sweet Fernes*.
- VI. *Sweet Turpentine*s.
- VII. *Orris*, or *Fragrant Sweets*.
- VIII. *Sweets* of a Fetid Smell.

I. Of a *Grassy Sweetness*, with a crude *Astringent Taste*.

Juncus vulgaris.

Equisetum which is sweetish and brackish in the Stalk, and Astringent in the Leaves; by which it seems a *Rush*, which has the same brackish Sweetness.

Gramen Leucanthemum is Sweet and Rough.

Arundo,

Arundo, Typha.

Sparganium tastes Sweet and Rough, like a *Rush*.

2. *Corn Sweets*, which are also Slimy Seeds, with the green Leaves of a crude Smell.

Avena, Hordeum, Triticum, Maza, Oriza, Fegopyrum, Pbalangium, Lachryma Jobi.

Gramen Caninum has Sweet Slimy Roots. *Galen* mentions the Acrimony of *Gramen Parnassi*, and attributes a little Acrid to all Grass; by which it is opening and Diuretick. *Lolium* is very Acrid and Sweet, affecting the Head. *Ægyllops* and *Phalaris* are described as Acrid. Blasted *Corn* stinks like Carrion, and contains a black Dust.

3. Sweet Sub-acrid Milky Plants :

Rapunculus, Campanula rotundifolia, Rapunculus Scabiosæ capitulo.

Trachelium has a thick bitterish Milk.

Speculum Veneris seems of this Class.

4. Sweet Sub-acrid Astringent, and a little Aromatick, like *Parsnep*.

Plantago aquatica, the Flowers and Seeds taste Sweet, Hot, Aromatick, like *Parsnep* : The Leaf is Sweet, Sub-acrid, of a crude Smell. *Plantago aquatica habet sal Causticum.* *Etmuller.*

Juncus floridus, the Stalk tastes Sweet, as *Rushes*; the Flowers smell Fragrant, and taste Sweet and Acrid.

Polygonum Germanicum is Sweet and Sub-acrid.

Sagittaria is of this Class.

5. Sweet

5. Sweet *Fernes* being Astringent and Bitterish, Sub-acrid in the Roots: The green Leaves smell like *Tallow*.

1. These are most Astringent.

Osmunda Regalis, whose Leaves smell like the snuff of a Candle. *Filix mas*, *Lonchitis*, *Asplenium*.

2. These *Fernes* have the most Mucilage.

Filix fœmina, whose Roots are very Mucilaginous.

Capillus Veneris, *Adiantum album*, *Trichomanes*.

Polypody Leaves and Roots taste Sweet, Bitter, Sub-acrid, Nauseous, and therefore Purgative.

I did not discern the Fragrancy in dried *Harts-Tongue*; but Dr. *Willis* asserts it.

The Roots of *Polypody* dried, are given for the *Rickets* to Children, in Powder.

6. Sweet, Bitterish, Aromatick, Acrid, like Odoriferous *Turpentine*s.

Calamus Aromaticus, which has the Cones of *Pine*.
Cyperus longus, *Schœnanthus*.

7. Sweet Bitterishes of a burning *Orris*-Taste, or Fragrant Sweets, with a Fragrant Smell and Bitterish Acrid Taste. *Iris*, *Costus dulcis* & *amarus*, *Iris palustris*, *Zinziber*, *Zedoaria*, *Galanga*, *Contrayerva*, which is said to be Aromatick and Acrid, like *Orris*.

Cardamomum is a Reed.

8. Acrid Sweets of a Fetid Smell; as,

1. *Spatula fœtida*, which smells like *Roast-Beef*.

2. *Pœonia*, which is Bitterish, Sweet, Fetid, and Sub-acrid. These are the *Fetid Sweets*.

Quære, Whether some of this *Class* may not be referred to the *Bitters*, because they have more *Bitter* than *Sweet*? and some a high Acrid Aromatick, and seem to belong to that *Class*; as *Zinziber*, *Galanga*, *Zedoaria*?

The Sweetness in many of this *Class*, is evident only in the fresh Plants.

The Fourth CLASS.

Of Plants of a Bitter Taste.

Bitter Plants, if they be *Aufteres*, have their crude Tartareous *Lympha* digested in the Plant-Bladders; and from thence is separated some little Oyl, Gum, or Milk into the Specifick Vessels, which gives the Bitterness; and the remaining Juice in the Bladders is *Acerb*, which being tasted with the mentioned Bitterness, they produce an *Austere Taste*.

Malpighius mentions some of the *Utriculi*, containing a Tartareous Stony Matter, of the shape of a Die in *Oak* and *Poplar*, &c. from whence I may infer, That an *Acerb Liquor* is contained naturally in the Bladders. *Malpighius* calls the proper Specifick Juice of the *Oak*, a *Shining Gluten*, which preserves
its

its Fibres, and makes it durable. Dr. Grew supposes it to be a *Resin*; but it is most probable that this Bitterness is a *Gum*: for *Resins* have less Bitter than *Gums*; and the *Oak Sap* is too crude to be digested into a *Resin*.

There is some Muciducts in *Hassle* and *Oak*, because the one bears *Nuts*, and the other *Acorns*, which have a Slimy Milk from the Oily parts of the Plant: And the same Mucilage is observable in all Plants which bear Fruit.

In *Plumb-Tree*, which is an Auster, there are Muciducts, besides the Milky Gum Vessels.

Because the Oyl and Acid in *Vegetables* can never be perfectly separated, therefore there is no Astringent Plant without some Bitterness; for as the Acid fixes on the Earth, the Oyl appears and gives a Bitterness, which is separated into the *Turpentine* Vessels.

The number of Vessels in *Bitters* may be confirmed by the Vessels in *Carduus*, which is Bitter, from Milk Vessels; and Slimy, from Muciducts.

Burdock has the same Milk Vessels, and is Bitter and Slimy.

These are the Bitter Smoaky. The Smoaky taste is a sign of an imperfect Acid; such as is in the Oily Acid of Soot and Smoak.

All Bitters are of a higher Digestion than Sweets, because these are digested into Bitters.

The Bitter-Sweet, as in *Apple-Tree* Bark, seems in a middle state betwixt Sweet and Bitters: for Sweets are not made Bitters immediately, but the

Juice must pass a gradual alteration; therefore in the Spring we taste a Sweetness in many Bitter Barks. The Bitter-sweet may be in the same Vessels, as we find *Choler* tasting of both: or else the Sweet is in the Bladders, and the Bitter in the Gum Vessels; there are also Muciducts in these, because they bear Fruit.

In the *Laurel-Bitters* the Oyl is less coagulate, and the Bitterness is greater than in *Austeres* (where it is most coagulate by the Acerb Juice) and the Astringency is much tempered by the Bitterness in the *Laurel-Bitters*; and from the Muciducts in these, the Bark sweats a clear Watry Gum, which is a thickned Mucilage: their Leaves are Slimy, as in most Fruit Trees, as *Peaches, Cherries, Almonds, &c.* and in most Bacciferous Trees, as *Mulberries, Hawthorne, Barberries*; and in the Nuciferous, as *Beach, Chesnut, &c.* which have Oily Slimy Nuts.

Malpighius (*Anat. Plant. p. 69.*) mentions in the *Pericarpium* of *Almonds, Turpentine Vessels, quæ secta copiosum fundunt hujusmodi succum.*

In *Ash* there is a *Laurel-Bitter*, and therefore both Bitter, Gum, and Mucilage; though these Vessels are but obscurely described by *Dr. Grew*, as two Rings of round parcels of proper Vessels.

In *Mulberry-Tree*, *Malpighius* observes the Bitter Milk Vessels.

In *Cherry-Tree* he mentions a Red Liquor in the Fibres of the Bark.

In the *Laurel-Bitter-Acid*, as *Walnut*; there are
two

two Rings of special Sap Vessels described by Dr. Grew, which are like the two Rings in *Ash*.

Sumach, which is a Bitterish Acid, has Milk-Vessels, and the Milk gives the Bitterness; and it dries into a Gum.

From these Instances it appears, That Bitterness depends on a Milky Gum, like that in *Cichory*.

The Bitter Acid Taste in *Holly* must depend on some Milk Vessels. Dr. Grew has only described the Muciducts and Lymphaticks: He observes the Milk Vessels in *Dandelion* to stand in a Ring; in *Figs* they stand in arched parcels, and these somewhat represent Rings; therefore I may suppose that the Rings he mentions in *Oak*, *Hazle*, *Barberry-Bark*, and the arched parcels in *Apples* and *Pear-Tree* are Milk Vessels.

The Muciducts in *Mallow* and *Elm*, stand in round parcels; and therefore it is probable that the same round parcels in *Oak*, *Walnut*, and *Ash*, are Muciducts: but in some Plants, as in *Holly*, the Muciducts and Lymphaticks are so mixt as to be obscure, and are less observed by the *Plant-Anatomists*.

I could wish we had a Cut of some Plant in each Taste; and that the several Juices of Plants were tasted, before they observed the varieties of Vessels; for by the Taste they might know what Juices and Vessels are to be observed in each Plant.

Barberry is a Bitter Slimy Acid, having a yellow Gum of that Taste, contained in Vessels which stand in a Ring; and from that Gum, is its Purgative

Vertue; but by the Juice in the Bladders is its Astringency.

Turpentine-Bitters have large *Turpentine*-Vessels; the Juice in the Bladders is Acerb, very considerably.

In *Turpentine*s, the Oyly part being separated, it leaves this Acerbity; from whence comes the Astringency in *Terebinthinate* Plants.

The taste of *Turpentine*, is Bitter, Acrid, Gummy, or Slimy: the Acid is loosely mixt with the Oyl; and therefore it sends forth strong *Effluvia* for Smells.

The Bitter-Acrid seem in a middle state betwixt Bitter and Acrids; all Acrids arise out of Bitters.

In *Wormwood* Dr. Grew observes *Turpentine*-Vessels, which, I believe, give the sweet Aromatick Taste to the Roots of *Wormwood*, and also Sap Vessels in parcels, which are arched as the Bitter Gum Vessels; and these give the Bitter Taste to *Wormwood* Leaves: the Astringency in *Wormwood* is from the Juice in the Bladders.

Plants of a Bitter-Taste are either Bitterish, or of a strong Bitter Taste; and these Tastes are observable in Herbs, or in the Barks of Trees.

I. The first Species of Bitters are the Austeres, which are Bitterish Astringents in the Roots of Herbs.

First, Bitterish Astringent Roots, with Crude, Astringent, and Sub-acrid Leaves:

1. *Plantago vulgaris*, *Quinquenervia*, *Coronopus vulgaris*, *Myosuros*.

2. *Poly-*

2. *Polygonum vulgare*, *Perficaria maculosa*, *Potamogeton*, and these have knobbed Stalks.

3. *Sempervivum majus*, *Vermicularis*, *Bedum arborescens*, *Vermicularis frutex*.

Sempervivum-Leaves are of an Acerb Taste; and the Roots taste and look like *Sorrel*, and therefore may be of the same Class. There is an Acid in *Vermicularis*, and it is used in Sauce, like *Sorrel*.

Anagallis flore luteo, and *Nummularia* are of the same Class, being Acerb in Leaves; but more crude and indigested than *Sorrel*.

I have used the Juice of *Sempervivum* in *Hecticks*, to cool the Salts, and Volatile Oyl of the Blood.

Secondly, Sub-acrid Austeres.

1. With Acerb Leaves:

Saxifragia fl. albo, aurea, *Polygonum Germanicum*, *Herniaria*.

2. With Slimy Leaves:

Portulaca, whose Roots taste Bitterish, Sub-acrid, and Astringent, and turn Reddish, and colour the Spittle; the Stalks taste Saltish, like *Sal Prunellæ*; and by this Taste it is probable they were first chose for Pickle.

Purslain-stalks taste Saltish from the mixture of two Tastes, Bitter in the Roots, and the Acid in the Leaves. *Chamomile*-Flowers, and other Bitters, are said to make a Salt Diuretick Infusion. *Herba Kali* is described *Saporis salis instar urinæ*; but I never tasted any but the Saltneis in *Purslain*.

Purslain is good for *Spitting of Blood*, both by the Slime, and the Astringency of the Leaves; but the Root seems to be of a contrary Vertue.

Orpin is Slimy in the Leaves, and Bitterish Sub-acrid in the Roots, but these are white Roots; yet is of the same *Class* as *Purslain*.

3. With a Sweet, Sub-acid, Slimy, Fragrant Fruit, having three Leaves:

Fragraria.

4. With Bitter Astringent Leaves.

1. *Quinquesfolium*, with five Leaves.

2. *Tormentilla*, with seven Leaves.

3. *Argentina*, with creeping silver-coloured Leaves; the Juice tastes a little like *Tansie*.

4. *Alchimilla*, with *Mallow*-Leaves.

The external accidents are here noted, to shew how unnecessary a large description appears, for the distinguishing of Plants.

Thirdly, Aromatick Austeres.

1. With an Aromatick Smell, like *Roses*:

Rosa alba Damascena.

Rosa Canina, which has a pulpy, sweet, sub-acid Fruit.

Radix Rhodia smells like a *Rose*; and the Root tastes Bitter, Acrid, Astringent.

China-Root has an Aromatick Acrid Root, whereby it sweats.

Cistus has a *Rose*-Flower, and is Bitterish Astringent.

2. With

2. With an Aromatick cool Smell, like *Burnet* :
Filipendula, Ulmaria, Pimpinella, Sanguisorba.

Fourthly, *Acerb Austeres*, being Bitterish Astringent in the Root, with *Acerb Leaves*; and these are the *Vine-Austeres*.

1. With Sweet *Acerb Fruit* :

Vaccinium nigrum & rubrum.

2. With Slimy Sub-acid Fruit :

Grossularia, Ribes, Vitis.

Ribes fol. nigro, it smells strongly of *Turpentine*, and is Diuretick; if Infused in Wine, it gives the *Rhenish-Taste*.

3. With Sweet Watrish *Acerb Berries*, and Rough Leaves :

Rubus vulgaris, the Flowers smell like *Roses*.

Rubus Idæus has Fragrant Berries, more Slimy, and less *Acerb*.

Austere Barks of Trees.

1. With Sweet Slimy Fruit, which contains a Stone :

Ziziphus, Sebesten.

Gum laccæ grows on the *Fujuba Indica*; the Hepatick Vertue is from the red colour; the Insects bite the Bark, and probably give the Colour and Vertue; as the Insect in the *Kermes*.

2. Or *Acerb and Sweet Slimy Fruit*; as,

Prunus Damascena Sylvestris.

Palma is Sweet and Rough in its Fruit, but Astringent in all its other parts, as *Galen* describes it.

Lotus

Lotus is described Astringent in the Leaf, and of a Sweet Astringent Fruit.

3. With Sweet Slimy Berries; in which are Stones.
Pyracantha, Paliurus, Oxyacanthus.

Viburnum has Astringent Leaves, and Sweet Slimy ungrateful Berries.

Smilax is a Thorny Plant, with red Berries, like *Paliurus*.

4. With Acid Acerb Fruit:

Mespilus, Sorbus torminalis, Alpina.

Cornus is of an Austere Taste, with a Styptick Taste, like *Medlars* in the Fruit.

The ripe Fruit of *Services*, is Sweet and Rough.

Rhus obsoniorum is referible to the *Sorbes*; the Skin of the Berries being Acid, and the Leaves very much Astringent.

Oxyacantha with *Sorrel*-Leaves, it Purges.

5. With Slimy Gummy Leaves, and Astringent Cones.

Alnus vulgaris, Betula.

6. With Membranaceous Seeds, and Angular Leaves of an Austere Taste.

Acer minus, Sycamorus; which last has a great Sweetness, and the springing Buds seem to smell like the *Pea-Clafs*.

Platanus has Rough naked Seeds.

7. With Sweet Astringent Nuts or Fruit:

1. *Corylus* in a Shell.

2. *Staphylodendron* in a Bladder.

3. *Castanea* in a prickly Husk.

4. *Fagus*

4. *Fagus* in a Rough Cup.
5. *Ilex*, *Quercus*, *Suber*; these are glandiferous.
Chestnuts Roasted eat Mealy and Sweet; the
Raw are more Sweet and Rough.

8. With *Juli* of an Austere Taste:

1. *Salix latifolia*, with *Sorrel*-tasted Leaves.
2. *Salix angustissimo & longissimo folio*, have
Austere Tastes in the Leaves.

Spinea Theophrasti is a Willow.

The *Catkins* of *Willow* smell sweet at first; but by
much rubbing, very strong and Bituminous.
*In hac arbore pinguis quidam humor crescit
Terebinthinæ non absimilis; nam ex salicis
serraturâ humida vernix confici solet. Goe-
dartius de Insectis.*

9. With a Pulpy-sweet Fruit, and a Bitter-sweet
Taste in the Bark.

Malus hortensis; sylvestris.

Apples have their different Tastes from one ano-
ther, according to the different mixtures of Sweet
and Acid; and so have *Pears*: The *Seeds* of *Apples*,
Pears, and *Plumbs*, are of the *Laurel*-Bitter.

10. With a Pulpy-sweet Fruit, having a Stoni-
ness in the middle:

Pyrus.

11. With a very hard, acerb, fragrant Fruit;

Malus Cotonea.

The fresh Buds of *Quince*-Tree taste Acrid, and
smell like the *Laurel*-Bitters; which, with the Fra-
grancy, may refer them to that *Class*.

12. With

12. With slimy Leaves, and fetid, sweet, slimy, sub-acid Berries.

Morus, whose Bark is Acrid, and it is Juliferous.

Plants of a stronger Bitter Taste, whose Species are,

1. *Laurel-Bitters.*
2. *Smoaky-Bitters.*
3. *Bitter-Acrids Aromatick.*
4. *Bitter-Acrid of a milder Taste.*
5. *Elder-Bitters, or Bitter Slimy.*
6. *Dock-Bitters.*
7. *Hemp-Bitters.*
8. *Turpentine-Bitters.*
9. *Dead-Nettle-Bitters.*
10. *Bitter-sweet Barks and Herbs.*

The Species of Bitters I have mentioned, are all *Austeres*; as,

First, Austere Herbs;

1. *The Crude.*
2. *The Sub-acrid.*
3. *The Aromatick.*
4. *The Acerb, or Vine-Austere.*

Secondly, Austere Barks, which are sub-distinguished by the Taste of the Leaves or Fruit, or some compound Taste, as I have mentioned above.

II. Plants

II. Plants of a strong Bitter Taste, with an Astringency or *Laurel-Bitters*, which have a Taste of a *Laurel-Leaf*, which is the Taste of a Kernel of a *Peach*, or like it in the Bark or Leaves.

I. With Bitterish Acerb Berries; this, in the first Buds, smells like a *Peach-Kernel*.

In *Cornus fœmina*, the Flowers are Fragrant, the Bark Fetid, the Berries Acerb, Bitter, Sweet, Nauseous.

II. With *Cherries* of a sweet, slimy, sub-acid Taste, or bitterish: *Cherries* have different Mixtures of Acerb and Sweet, and Sub-acid or Slimy.

Laurus Cerasus has a slimy sweet Fruit.

Cerasus fructu nigro & rubro.

Cerasus avium racemosa.

Myrobalanes have an Acidity with a little Acrimony.

III. With bitterish and nauseous sweet slimy Berries, and little Leaves of a *Laurel-Taste*.

Ligustrum, Philyrea, Alaternus.

Lignum Colubrinum is said to be Bitter, like a *Peach-Leaf*, with Berries, like *Elder*: It is used against *Fevers* and *Poysons*, by that Taste.

IV. With fragrant Leaves and Flowers.

1. *Gelseminum Indicum fl. flavo.*

2. *Laurus*, whose Berries are Bitter, Acrid, Aromatick.

The *Clove-Tree* is described with *Laurel-Leaves*; and our *Bays* has the smell of *Cloves*.

Cinnam.

Cinnamon-Tree has Leaves and Berries like *Laurel*.
Lignum Saffaphras has a *Laurel-Leaf*, and is Bacciferous.

Piper Jamaicensis has the relish of *Cloves*.

3. *Myrtus*, with bitterish, astringent, sub-acrid Berries.

Myrtus Brabantica with a *Myrtle-smell*, and *Myrtle-leaves*, but more Bitter : It has the *Juli* of *Willow* ; the Seeds are observed to smell like *Stæchas*.

4. *Salix odorata* with *Willow-leaves* ; the Leaves, when young, are very Fragrant ; and, if long rubbed, they smell like *Laurel*.

Vitex must be placed with sweet *Gaul*.

A Fragrant and a Terebinthinate Smell are observed in the Blossoms of many Trees : The Juice of the Plant being kept close all Winter, becomes more Vinous, Odoriferous, and higher Digested ; like the Juice of *Grapes*, and other Liquors bottled up ; and therefore the Blossoms of Trees have an odoriferous Smell, which depends on the Oyl of Plants well digested.

Most Aromatick Trees are of this *Class* ; as *Ben-zoinum* is the Resin of a Tree with *Citron-leaves*.

Tacamahac is Bitterish Aromatick ; this and *Carranna* are of the *Laurel-Aromaticks*.

5. *Thea* is a Bacciferous *Frutex* ; the Berries Bitter-sweet ; the Leaves Bitterish, Aromatick, and Sub-acrid, whereby they are Cephalick ; the Berries are nauseous and very hot.

V. With

V. With fragrant Fruit, whose Pills are Bitterish, or Sweet Aromatick, and the Pulp Acid.

1. *Malus Citria*, whose Pill is Sweetish Aromatick, and the Pulp sweet Acids.

2. *Malus Limonia* is more Acid in the Fruit, and more Bitter and Acrid in the Pill than *Citrons*.

3. *Malus Aurantia* has a Pill of the greatest Bitterness, but of the same Aromatick Acrid as the former.

4. *Malus Granata* has either Sweet, Vinous, or Acid Fruit, with a Pill, having some Stypticity; and the Leaves have a mixt Smell of Fetid and Aromatick.

VI. With Oily Nuts, Sweet or Bitter :

Amygdalus amara or *dulcis*; *Almonds* have a Watry Gum, and the sweet *Almonds* have some Bitterness.

Palma Indica nucifera; the *Coker-Nut* tastes Bitterish, Sweet, Oily, and a little Fetid; the Fruit yields Oyl, Vinegar, Milk, and Sugar.

VII. With sweet Nuts and acrid Barks:

1. *Juglans*, whose Leaves smell and look like *Laurel*.

2. *Ilex glandifera*, whose Bark tastes Bitterish, Acrid, and Astringent; the Leaves are of a *Laurel-greenness*, and the *Acorn* is Sweet.

Some of this Tree was sent to me by my Ingenious Friend Mr. George Anthrobus of Tameworth, who has tasted many Plants with me.

VIII. With Barks of a Bitter Acrid *Laurel-Taste*, with Berries.

1. Agri-

1. *Agrifolium*, whose Red Berries taste Sweet, Bitterish, Sub-acrid, Slimy, and the Leaf has a *Laurel-Bitterness*. This is our *English Laurel*.

2. *Viscus*, which tastes like the *Laurel-Bitters*, and it grows out of other Trees; the Berries are Slimy and Acrid.

IX. Plants of a *Laurel* taste Acrid.

Clematis daphnoides, whose Root is Bitter-Acid : And this clasps about other Plants.

Pyrola is said to be Bitter-Astringent.

X. With Acrid Gums, or Milk.

1. *Guaiaicum* has *Laurel-leaves*; it is said to be somewhat Fetid, but the Gum tastes Acrid, and smells somewhat Sweet in Burning. The Bark of *Guaiaicum* seems to resemble the Bitterness of *Box*.

2. *Draco arbor* is a *Laurel-Acid*; the Gum tastes Acrid as well as Gummy; by which it is good for those *Hæmorrhages* which come from Obstructions: It dissolves in Water and Oyl, and melts at the Fire, as Resins do.

3. *Rhus Virginiana* has any Acrid Milk, the Milk dries into a Gum: It seems a *Laurel-Bitter Acid*.

XI. With a strong *Fætor* in the Leaves:

1. *Buxus* which is a *Laurel-Bitter*, and Bacciferous: The *Fætor* makes it a Narcotick.

2. *Hedera arborea* whose Leaves smell Oily Fetid; and the Berries are Sweet, Acrid, Aromatick, Slimy, and Bitter; the Berries are Diuretick, Sudorifick, and Purgative.

Coffee;

Coffee; the Berries are Bitterish, Nauseous; the Skin of them Sub-acid and Rough; the Kernel Bitterish and Hot; the Leaves are *perpetuo virentes*: by this description of Mr. Ray's, it appears to be a *Laurel-Bitter*; the Acrimony hinders Sleep, and makes *Coffee* Diuretick. *Quære*, Whether *Ivy-Berries*, or *Juniper-Berries* would not make good *Coffee*?

XII. With a crude Smell in the Leaves.

Oleander with long *Laurel-Leaves*, and a Nauseous-Taste: This is *Siliquose*, and referible to *Apo-cynum*.

XIII. With a large Watry Pulpy Fruit, whose Kernel is of a *Peach-Bitter* Taste; as also the Bark of the Tree.

Persica, *Nucipersica*, these have a Vinous Taste, a little Bitterish.

XIV. With *Juli*, of a *Laurel-Bitter* Taste:

Populus alba, *nigra*, *Lybica*, *alba foliis minoribus*,
Salix folio Amygdalino.

The *Catkins* of the *Asp* taste like the Bark.

Populus Lybica is fragrant in the Buds, if rubbed.

The *Buds* of *Poplar* have a yellow, fat, resinous Juice, from whence they have their Vertue.

Quinquina is described by Mr. Ray, to have the Leaves *Prunorum rubrorum*; the Flower of *Tunicæ*; the fresh Bark is a little Purging, like the Bark of *Cherries*, *Peaches*, *Almonds*, which purge, and resemble the Taste of *Quinquina*. The *Chelsy-Tree*

is not the *Quinquina*, because it tastes Terebinthinate, and not of the *Laurel-Bitter*, like *Quinquina*: And in this I have Mr. *Wats's* concurrent Opinion.

XV. With Bitter Acrid Seeds in Keys:

Fraxinus.

XVI. With an Oily Fruit:

Ripe *Olives* are Black, Acrid, Bitter, and Nauseous; the Leaves of *Olives* are Bitter Acrid; the Oyl is the Mucilaginous Juice, observable in *Laurel-Bitters*; the *Amurca* is Bitterish.

II. Smoaky Bitters.

1. Watry Bitters, Smoaky, Sub-acrid, and Milky.

Dandelion, whose Roots taste Sub-acrid; and therefore like *Choler* by the Bitter and Acrimony.

Sonchus, *Cichoreum*, *Endivia*, *Scorzonera*, whose Roots dried taste Slimy and very Acrid, by which they sweat. I could not taste it in the fresh Roots.

Tragopogon belongs to the same Class.

2. Smoaky Bitter Astringents:

Hieraceum vulgare, *Pilosella*, *Chondrilla*, *Pulmonaria Gallorum*, *Lampsana*.

3. Bitter, Slimy, and Smoaky:

Carduus vulgaris, *Mariæ*, *benedictus*, *lanceatus*, *Dipsacus*, *Bardana*, *Carthamus*, *Branca ursina*.

The Roots of *Burdock* have a Bitterness like *Soot*, which I call a Smoaky-Bitter; the Leaves are much bitterer.

4. Bitter, Astringent, Sub-acrid, Smoaky:

Jacea, *Stæbe*, *Cyanus*.

Ser-

Serratula.

Scabiosa succisa.

5. Bitter, Sweet, Astringent, Smoaky, with Slimy Leaves, a little Fragrant, like *Parfneep*.

Bellis major, it tastes Bitterish besides the Sweet; and therefore of the same Class as *Jacobæa*.

Jacobæa, *Centaureum majus*, *Erigerum majus*, *Tomentosum*, *Tussilago*.

6. Bitter Acrid with a mixt Smell of Aromatick and unpleasant; as

Carlina.

III. *Wormwood*-Bitters, or Aromatick-Bitters, Sub-acrid, Astringent, of a *Sea-Wormwood* Smell, or mixt unpleasant Smell.

Abfuchium commune, *Romanum*, *Seriphium*, *Santonium*, *Gnaphalium*, *Polium montanum*.

Tanacetum, *Millefolium*, *Ageratum*, *Præmna*, *Chamæmelum*, *Bupthalmum*, *Cotula*, which is Fetid.

Artemisia, *Matricaria*, *Abrotanum mas & femina*.

By the resemblance of Smell and Taste, *Millefoil*, *Chamomel*, *Bupthalmum*, *Cotula*, are *Wormwoods*.

Tansie smells not unlike *Matricaria*.

And *Balsamita* smells like *Tansie*, with a Balsam Smell; and it has a *Wormwood* Bitter, Acrid, Astringent Taste.

IV. *Madder*-Bitters, being Bitter, Sub-acrid, Astringent.

Gallium, *Mollugo*, *Asperula*, which is very Fragrant; and *Gallium* has some Sweetness.

Aparine, *Cruciata*, *Rubia*, *Anchusa*.

Celandine seems to be a *Madder* by its Bitterness, and colour of the Root; but it has too much Acrid.

Rubia colours the Urine Red, as *Gerard* observed, all colouring Plants have Oleose Acrid Particles, which act on the colouring Particles in Animal Humors; such is *Choler*, and the red part of the Blood; therefore they are accounted Hepatick; and because they are Acrid, they are Diuretick.

V. *Dock-Bitters*, or Bitter, Slimy, Sub-acrid, Astringent in the Root.

1. With Acerb Watry Leaves:

Lapathum vulgare, *acutum*, *Rhabarbarum verum*,
Ponticum & *Monachorum*, *Lapathum rubrum*.

2. With Sorrel-Leaves more Acid:

Acetosa vulgaris, *Lanceolata*, *rotundifolia*, *Acetosella*.

3. With Acerb Leaves, and very Astringent Roots:

Bistorta, *Hydrolapathum*.

VI. *Hemp-Bitters*, with Bitter, Acrid, Aromatick Leaves, with a strong heady Smell. The *Hemp-Taste* is in the Root most; the *Agrimony* smells most in the Leaves; the Roots are Sweet.

There is a Stinging Taste in common *Hemp*.

Cannabis, *Eupatorium Cannabinum*, *Eupator fl. flavo*.

Agrimonia vulgaris has but little of the *Hemp-Taste* in the Root; as *Eupatorium Cannabinum* has.

Eupa-

Eupatorium fl. luteo smells Sweet like *Parfnep*, and is of a Bitter-Acid Taste. *Eupatorium Cannabinum* smells like it, but stronger.

Marrubium aquaticum smells like Agrimony.

VII. Elder-Bitters, being Bitter, Acid, Mucilaginous Purgers.

Sambucus vulgaris, & *aquatica*, *Ebulus*, *Euonymus Theophrasti*.

VIII. Bitter, Sweet, Sub-acrid Tastes. /

1. Of a little Bitterness, with a low degree of the Clove-Smell in the Flower, but crude green Leaves.

Lychnis fl. albo, rubro, viscosa, Calcedonica, Behen album.

Paronychia fol. rutaceis has a Bitterish Sweet Roughness, and a Flower like *Lychnis*, and it feels viscous.

Lychnis sylvestris, Calcedonica, Behen album, have all a Bitterish Acid in the Roots.

Lychnis viscosa is Bitterish, Astringent, Slimy in the Leaves, and Sub-acrid in the Stalk, which feels Gummy.

Lychnis segetum is Bitter Acid in the Seed.

Lyfimachia purpurea spicata tastes Bitterish and Sweet in the Cups of the Flowers (the Flowers rubbed smell of *Codlings*) and Roots, but Slimy in the Leaves; for which reason I think it a *Lychnis*, or else a *Prunella*.

2. Of a very Nauseous, Bitter, Sweet Taste, with a Clove-Smell in the Flower.

Armerius pratensis, Armerius, Saponaria.

Or without any *Clove-Smell* nauseously Bitter Sweet.

Centaurium, Gentiana, Gentianella.

Scrophularia, Digitalis, which have a Bitter Sweetness in the Flowers, and in the green Leaves a smell of *Elder*.

Cynocrambe in the Root is Sweet, and Bitterish Sub-acrid, of an *Elder-Smell*. *Quære*, Whether of the same *Class*? The Leaves boyled, and taken inwardly, purge strongly.

3. Of a strong Aromatick Smell, like *Cloves*:

Caryophyllus, Caryophyllata, Lychnis, Coronaria, in the Root is like *Cloves*.

IX. Species of strong Bitters, is *Turpentine-Bitters*.

First, Bitter-Astringent, with a *Turpentine-Smell*.

1. Plain *Turpentine-Trees*:

Abies, Pinus, Picea, Lentiscus, Cupressus, Terebinthus, Pistachia.

Larix, Taxus is a crude *Turpentine-Tree*.

Venice-Turpentine is from the *Larix*, *Cyprian* from the *Terebinthus*.

Burgundy-Pitch is the *Resina Picea*; the common *Turpentine* from *Pinus Montana*.

Lamp-black is, *Fuligo resinæ aut picis concrematæ*.

Sarcocolla is a Gum, *Ex arbore Thuriferâ*, which is a *Pine*.

Frankincense is a *Firre-Resin*; *Manna thuris* is the Powder of it.

The *Myrrhe-Tree* is like *Lentiscus*; *Stacte* is a Liquid *Myrrh*: *Myrrh* is Bitter, Sub-acrid and Gummy.

Bdellium

Bdellium smells pleasant, like *Myrrh*, and is the Gum of a Tree.

2. *Turpentine*-Herbs very Styptick :

Hypericum, *Ascyrum*, *Androsæmum*, *Perfoliata*,
Bupleurum.

Secondly, Bitter Astringent *Turpentine*s, with an Aromatick Smell.

Lignum Aloes, which is Bitterish, Astringent, and Acrid ; by which it is a Cordial.

Lignum Rhodium is like the *Laurel-Clafs*.

Santala they are Aromatick, Bitterish, Astringent, and Sub-acrid, of a *Rose-Smell*; the Leaves are described like the *Mastick-Tree*.

Opobalsamum is the *Turpentine* of the *Balsam-Tree*.

Carpobalsamum is the Seeds of *Terebinthus*.

Xylobalsamum the Wood of the *Balsam-Tree*.

Balsamum Capiviæ tastes Bitterish-Terebinthinate, with a smell of *Lignum Rhodium*.

Styrax ficca is a Gum-Resin of an excellent Scent ; the Tree has a Resinous, Acrid, Oily Nut.

Terebinthus is Bacciferous, and has *Laurel-Leaves*, which shews the similitude of Nature betwixt *Laurel-Bitters* and *Turpentine*s.

Turpentine in Plants is of a pale, a reddish, a yellow, and a purple Colour.

Juniperus whose Berries make the Urine smell of *Turpentine*.

Cistus ladanifera, *Botrys*, *Sanicula*.

Cedrus Virginiana is of an Acrid burning quality, Odoriferous,

Styrax, *Nux Moschata*; *Mace* is the Skin covering *Nutmegs*; the *Nutmeg-Tree* is described as a *Laurel*.

Thirdly, Fetid *Turpentine*s.

1. Fetid mixt with a smell of *Turpentine* in Trees and Leaves.

Sabina, *Arbor vitæ*.

Fetid mixt with a smell of *Turpentine* in the Roots.

Nardus Celtica, *Indica*, *Asarum*, *Valeriana*, *Serpentaria Virginiana*.

Camphora is described like *Juniper*, it is a natural *Sal Volatile Oleosum* cut out of the Tree.

Fourthly, Bitterish Acrid Leaves and Flowers of a Smell of Fetid *Turpentine*s.

Flos Africanus, *Calendula*, *Chrysanthenum segetum*.

Fifthly, Bitterish, Acrid, Astringent, Terebinthinate, Sub-aromatick Plants.

Consolida Saracenica, *Virga aurea*, which is very Acrid; by which it is Diuretick. *Herba Doria*, *Stachas Citrina*. *Quære*.

Conyza cærulea, acris; the *Conyza media*, in the Roots smells of *Turpentine*.

Enula Campana evidently tastes of *Turpentine* in the Root; by which it is Pectoral and Diuretick. Dr. Grew observed a *Citrin-Balsam* in *Enula*.

Flos Solis, if it be broke, smells of *Turpentine*, and it sweats it forth in the middle of the Flowers; which colours the Fingers Purple.

Lappa minor is of the same Class.

After

Aster serotinus fruticescens favours of Turpentine.
Malabathri folium is *Canellæ folium*, tasting like Spikenard, and of the same Vertue.

Sixthly, Bitterish Astringent, with a Musk, or Terebinthinate Smell.

Geranium Robertianum, *Batrachoides*, *Geranium Moschatum*, *Columbinum*.

Some *Geraniums* have little Smell.

X. Species of Bitters.

Dead-Nettle Bitters being Bitterish Astringent.

First, With a smell of Fetid, such as is in Dead-Nettle.

Secondly, Bitterish Astringent.

1. With a Sliminess in the Leaves:

Lamium fl. albo, rubro, flavo, *Syderitis*, *Panax Coloni*.

2. Fetid Resinous:

Hedera terrestris, *Morsus gallinæ*, *Galeopsis*.

3. With a *Lamium* Smell, and mixture of Aromatick Resin:

Ladanum segetum, *Betonica*, *Horminum*, *Sclarea*, *Melissophyllum*.

4. In which there is a high degree of the Bitter Acid:

Ballote, *Marrubium*, *Cardiaca*, *Scorodonia*, *Chamædrys*, *Teucrium*, *Stachys*, *Lupulus*, *Scordium*.

XI. Bitterish Astringents agreeing with the *Lamium* in Taste, and of the same Vulnerary quality; but the *Lamium*-Smell is wanting.

Verbena,

Verbena, Bugula, Euphrasia, which tastes like *Vervain*, and has no considerable Smell; it has therefore the same Cephalick Vertue as *Vervain*, which seems to be a *Lamium*.

Alfine Veronicae facie, Veronica, Prunella, which, by its Bitterish Astringent Root, is a *Veronica, Crateogonum, Cuscuta*.

Verbascum is a *Lamium* by its Bitter, which is like *Marrubium*; the Roots taste Bitter-Acid; the Flower smells a little Sweet.

Quære, Whether *Tapsus barbatus* be a *Lamium* by its Bitter Astringency? it has the same Nauseous Bitter Astringency as the common *Verbascum*, which is not unlike the *Vervain-Bitter*.

Digitalis seems to come near to the *Mullein* Bitterness, as I perceived by tasting the Root.

Scrophularia, Betonica aquatica, seem *Lamiums* by the Flower, and the squareness of the Stalk, by the Bitter Astringency; but they have the Fetid Smell of *Elder*, not *Dead-Nettle*.

These may therefore be placed as Bitter Astringents with a Fetid Smell:

Verbascum, Tapsus, Digitalis, Scrophularia, Betonica aquatica, & Cynocrambe.

XII. Strong Bitter Sweet Tastes in the Bark and Berries, being Purgers.

Rhamnus catharticus, whose Bark is very Acid or burning in chewing.

Alnus nigra baccifera of the same Taste and Vertue.

XIII. Herbs

XIII. Herbs of a bitter, sweet, slimy, sub-acrid Taste, and Purging.

Aloes: *Quære*, Whether this is referrible to the *Grasses*; it is Astringent in the Leaves.

Gratiola, *Lyfimachia galericulata*. *Quære*, Whether these be not referible to the *Lychnis Bitter-Sweets*.

The Fifth CLASS.

Of Aromatick Plants.

PLants of an Aromatick Taste, are either Sweet-Aromaticks, or Bitterish-Aromaticks.

There are some Aromaticks both Bitterish and Sweet; and there are also mixt Smells of Aromatick and Fetids.

The Sweet-Aromaticks have their Sweetness from the Juice in the Bladders, which is of a smooth Oily Nature; but their Acrid-Aromatick from a *Milk*; which, in *Fennil*, may be dryed into an Oily *Balsam*, in which is a Volatile Salt mixt with the Oyl: And hence all the Aromaticks are Acrid, and Hot in Taste. All the Umbelliferous Plants are Milky; and in *Angelica* the Milk dryed looks like *Blood-clutters*; which is observed by *Dr. Grew*.

The

The digestion is higher in the Bitterish Aromatick than in the Sweet, which I call of the *Fennil-Class*, because that is most known; and a flavour of it is observable throughout that *Class*: boyled *Fennil-Roots* favour of *Parsneps*.

The Oily Salt is spread through the whole Plant, and gives the same Taste to each part: This also produces the *Effluvioms* which affect the Smell and Taste.

In the Bitterish-Aromatick, as *Rosemary* and *Lavender*, the *Balsamick Turpentine* is like a Resin, which gives the Bitterish Acrid Taste, and is lodged in Oily Vessels; but an Astringency is in the Bladders.

In the Aromaticks of a mixt Smell, the Oily Juices are highest digested.

First, Sweet Acrid Aromaticks.

1. Of a *Parsnep-Smell*:

Pastinaca latifolia, tenuifolia, Aquatica, Sisarum, Sium, Sison, Oenanthe aquatica.

Ballatis, Sisarum Peruvianum, whose Roots taste Sweet and Mealy, Slimy, and so fit for Food; the Flowers and Leaves smell Fragrant, like a *Parsnep*.

Daucus, Pimpinella, Saxifraga major, minor.

Or of a mixt Smell of *Parsnep*, with Fetid:

Sphondylium, Cicutaria vulgaris.

2. Of a *Fennil-Smell* Aromatick:

Foeniculum, Anethum, Dracunculus hortensis, Anisum, Carum, Crithmum, lignum Saffaphras, by the taste is of this *Class*. Or

Or of a *Fennil-Smell* mixt with *Fetid*.

Peucedanum has a *Sulphur-Smell*.

Ferula, *Panax*, *Libanotis*, *Cuminum*, *Meum*, *Coriandrum*, *Ammi*, *Levisticum*, *Siler montanum*, which smells like *Lovage*, and tastes *Acrid*: by the Taste and Smell arising from a *Volatile Salt* and *Oyl*, these are *Uterines*, as *Strong*, *Fetid*, *Diuretick*, *Pectoral*, and *Carminative*; as all other of this *Class* are.

3. Of a *Parsley-Smell*.

Caucalis, *Petroselinum Macedonicum* & *Sativum*, *Bulbocastanum*, *Smyrnum*, *Percepier*, *Hipposelinum*, *Opium*, and the last has a *strongness* or *Fetid*.

4. Of a *Chervil-Smell*:

Chærefolium, *Pecten Veneris*, *Gingidium*, which is described *Bitter-Aromatick*.

Seseli Hartwort of *Candy*, smells like *Chervil*; as *Gerard* affirms.

Of a mixt Smell of *Chervil* and *Fetid*:

Myrrbis Sylvestris *Seminibus asperis*.

5. Of a *Sweet*, *Aromatick*, *Acrid*, *Astringent* Taste, as *Cinnamon*, *Cassia Lignea*, but these I have placed with the *Laurel-Aromaticks*; but by the Taste they are of this *Class*.

6. Of a *Sweet*, *Bitterish*, *Acrid*, *Aromatick* Taste, with the Smell of *Angelica*.

Angelica hortensis, *Imperatoria*, *Herba Gerardi*, *Petasitis*, which sweats out a *Balsam*, *instar Balsami Capivæ*.

7. Sweet

7. Sweet Acrid Aromatick in a very high degree :
Cubebæ, Cardamomum.

Anomum is reckoned like *Cardamomum* or *Acorus*.

To this *Class* the Aromaticks in the Sweet Tastes are most properly referible.

Secondly, Species of Aromaticks are Bitterish, Acrid Aromaticks, Sub-astringent.

1. Of a *Mint-Smell* pure or mixt :

Mentha spicata, Calamintha, Mentha crispa, Mentastrum, Sisybrium.

Fetid mixt with a *Mint-Smell* :

Nepeta, Dictamnus, Pulegium.

2. Of a Smell of *Citron* :

Melissa, Ocimum.

3. Of a *Marjoram-Smell* :

Marum Syriacum, Origanum, Majorana, Clinopodium, Acinos.

4. Of a Sweet Resinous Smell :

Rosmarinus, Lavendula, Stæchas Arabica.

Thymus, Serpillum, Epithymum.

Of a mixt Smell with Fetid :

Hyssopus, Satureia.

5. Of a very great Acrimony :

Zinziber, Galanga, Acorus.

Vide, The *Class* of Sweet Tastes, where they are placed more by their external similitude to the rest of that *Class*; but must here be placed by the Taste. *Cortex Winteranus* is referible to the *Laurel-Bitters*.

Of

Of a mixt Smell:

Zedoaria, Camphora.

Vide, Bitter Astringent with a *Burnet-Smell*.

Bitter Sweet Astringent with a *Clove-Smell*.

Laurel-Bitters Aromatick.

Terebinthinates Aromatick.

Aromatick Austeres.

I generally find the Roots of Bitterish Aromatick Plants to be only Bitterish Astringent; the Aromatick is more evident in the Leaves, as in *Balm, Marjoram, Clary, Sage*.

The Roots of *Mint* taste not so Acrid and Aromatick as the Leaves; therefore the Juices are higher digested than in the Root, which taste only Bitterish Astringent; and the Acrid Aromatick is produced from the Bitter of the Root.

I compared the Taste of *Mint*, which had been long kept growing in Water, with fresh *Mint*; it was not so strong in Taste and Smell as the fresh Sprig got out from the Garden; there was some difference, but not much.

The growing of Herbs from Water, shews that Water is no pure Element, but a compounded Body, having some mixture of Oyle, Acid, and Earthy Particles, which are contained under the form of Water, and nourish both Plants and Fish. Water long kept tastes Acid, and is Fetid, which are sensible proofs of an Oyle and Acid dissolved in it.

In many Bitters, as the Smoaky, the Roots taste stronger

stronger than the Leaves, because of the greater plenty of the Bitter Milk Vessels; but in the Leaves there are the same Milk Vessels; and besides them, in the Bladders of the Leaves, is contained a crude slimy Juice, which is not capable of any farther digestion by the heat of the Sun; and hence it is that the Leaf tastes most of that crude slimy Juice, with a mixture of Bitter, from the Milky Bitter Gum in the Specifick Vessels.

The Root of *St. John's-wort*, tastes Bitterish Astringent, with a lower savour of *Turpentine* than in the Leaves; in which the Oily Juice is more exalted and Volatilized, and smells more of *Turpentine*.

The *Wormwood-Bitters*, as *Feaverfew*, *Mugwort*, *Chamomile*, have less Bitter in the Roots than in the Leaves; they have a sweetness like the Root of *Wormwood*, which sweetness is digested in a bitterness in the Leaves.

The Sixth CLASS.

Of Fetids.

I Find that the Fetids will not easily be distinguished from the Aromaticks, because of the likeness of the Plants in Figure and Taste, of Sweet or Bitter; and the mixt Smells of Fetid and Aromatick are to be placed in the same *Class*.

I men-

I mentioned many Fetids which are placed in other *Classes*, by other remarkable Tastes, with which they are joined ; as,

1. The Fetid Earthy-Tastes.
2. The Fetid Rank Oyly in the *Pea-Class*.
3. Fetids of a *Lamium*-Smell.
4. *Elder*-Fetids.
5. Terebinthinate-Fetids.
6. The *Laurel*-Fetids.
7. The Sweet-Fetids.

But these Fetids will be mentioned in the following *Classes*.

8. The *Garlick*-Fetids.
9. The *Cress*-Fetids.
10. The Corrosive-Fetids, Venemous Plants.

I shall here only mention the Narcotick-Fetids, which are Mucilaginous : To which I will add the strong heady Opiates ; tho' rather Aromatick than Fetid.

The strong Aromaticks have a nature inclining to Fetid, and something mixt of both in their smells ; and they are accounted something Soporiferous.

1. Fetids with Mucilaginous Leaves, with a mixt Smell of Aromatick and Fetid, being Opiate, and very heady, bearing Fruit.

Mala insana, Syriaca.

Mandragoras has an Aromatick Fruit ; and the Bark smells Narcotick.

Pomum amoris, Flos Africanus.

Y

2. Muci-

2. Mucilaginous Leaves, with Bitter Acrid Roots of a sweet heady offensive Smell.

Auricula Urſi, Primula veris.

3. Mucilaginous Bitteriſh Leaves, with Bitter, Acrid, Milky Roots, of a Poppy Fetid Smell.

Lactuca hortensis, ſylveſtris, Lactuca agnina.

Papaver rhœas, Papaver hortense, Argemone.

4. Mucilaginous Bitteriſh of a *Solanum* Fetid Smell:

Solanum lignosum, Amomum Plinii, Mirabilis

Peruviana, Solanum lethale, Herba Paris,

Circœa, Aſclepias, Tabaco, Hyoſcyamus.

5. With a Fuſty Smell, like *Mouse-Turds*:

Lithospermum.

Cynogloſſum, whoſe Roots have a Sweet Slimy Pea-Taſte. *Quære*, Whether referible to that *Clafs*.

Nux Vomica ſmells like Opiates Fetid, and is of a Bitter Slimy Taſte; it cauſes *Trembling, Convulſions*, and *Shortneſs of Breath*; theſe Symptoms depend on the Poyſoned Spirits; for I find no alteration in the Stomach of a *Dog* poyſoned by it, or the *Solanums*.

Coculus Indi is very Bitter and Acrid, and a Narcotick; by which it offends Inſects and *Lice*.

Opiates have a great Slime in the Bladders, and a Bitter, Acrid, Fetid Gum or Milk, like *Opium*, which is their Oyly Juice; and therefore by the Gummy, Bitter, Acrid, Fetid they muſt be Claſſed, and not by the Slime; by reaſon whereof, the Antients eſteemed Opiates Cool; tho' the *Fætor* and Acrimony ſhew them to be Hot Plants.

Opiates

Opiates yield much Oyl by distillation; ʒi. of *Opium* yields ʒss. of Oyl, ʒiii. of Earth, ʒi. of Water.

ʒbi. of *Poppy-Seeds* yields ʒix. of Oyl, of Water, and Earth ana ʒiii. in a distillation, in Sand, as *Bonetus* mentions.

The Narcotick Faculty lies in the *Fætor*, which depends on the Volatile Oyl; which being Fetid, like the Animal Spirits, it acts on them, and is offensive to them, being too much Fetid for them; it extinguishes their Lucidity, as a Candle is put out by the Fumes in Mines, or the Fumes of strong Liquors in Cellars; or else the Mucilage passing into the Nerves, with the Fetid Particles, it may clog the motion of Spirits, and produce a *Stupor*, by obstructing the *Nerves*.

The Seventh CLASS.

Of Plants of an Acrid or Cress-Taste, which are Bitterish or Sweet, and Pungent Acrid.

A Crid Plants have a great deal of Volatile Salt Pungent, from some Bitter Watry Gum in its Oily Vessels; this Gum is both Bitterish and Pungent. The Bladders in *Horse-radish-*

Roots give a Sweetness, which is digested into a Bitterness with Acrimony, which may resemble the Gum of *Bdellium*, which tastes Bitter Acrid; and *Celandine*, which is of this *Class*, bleeds a Bitter Acrid Milk.

Malpighius observes in the description of *Onions*, That the Specifick Vessels being cut, *Ichorem quasi lac fundunt*.

We want Cuts of this Taste, more than any, to describe their Milky Gum-Vessels.

If Plants were described according to their several Tastes, by the Classes, I would advise it to be done by a slice of the Stalk, where the Specifick Vessels appear best, because the Bladders are least; for when I have doubted of the Oily Tastes, I have found them evident in the Stalk, where I have perceived an Acrid which could not be tasted in the Root or Leaves, as in *Chelidonium minus*.

The Oily *Balsams* may be always tasted in the Seeds of Plants.

The Acrid Salt is tempered by the Oyl in Aromatics; but it is more Pungent in Acrids, where there is less Oyl.

I suppose the Acrid Salt has some pointed Figure like other Volatile Salt.

All Salts are compounded of Oyl, Acid, and Earth; but this Pungency in Plants seems to be the Oyl and Acid of Plants only: and because of its want of Earth, or sufficient Acid, does not taste Salt.

This

This Composition of Oyl and Acid in Plants, spends the Oyl of Plants, and turns it into another Taste, and a long Figure, on which the Pungency depends; and the quick pungent Smell, different from the Smells of *Resins* and *Turpentine*s.

The Pungency in *Choler* is the ground of the Animal Salt; and if Acrid Plants, as *Woad* be putrefied, it yields a Volatile Urinous Salt: The Pungency therefore in Plants is the *Embryo* of a Volatile Salt, and may be esteemed an imperfect Salt, wanting either the Acid part or Earthy to give it a Saltness; as the Acid of digested Meat gives a Saltness to *Cholers* Acrid; so, by Putrefaction, a Volatile Acid is produced to give a Saltness to the Pungency of Plants.

The Species of Acrids may be the Aromatick-Acid, the Cress-Acid, and the Corrosive; but I think fit to make distinct *Classes* of these.

The Species of Cress-Acrids; are,

1. The Fragrant-Cresses.
2. Pure Cress-Acrids.
3. The Colouring-Cresses.
4. The Sweetish-Cresses,
5. Fetid-Cresses.
6. *Pepper*-Cresses.
7. *Garlick*-Cresses.
8. *Garlick* Slimy-Acrids.
9. Gummy-Acrids.

1. Acrid Tastes, with Mucilaginous Leaves and Fragrant Flowers, and Bitter Acrid Seeds:

Leucoium sativum, luteum, Viola lunaria, Hesperis, Lyfimachia filiquosa, Thlaspi Creticum.

2. With a Cress Pungent Smell, without any Aromatick:

Erysimum, Barbarea, Nasturtium aquaticum, hortense, Cardamine, Paronychia vulgaris, Cochlearia, Bursa pastoris, Nasturtium Indicum, Sinapi, Draba, Iberis, Rapistrum, Turritis, Myagrum, Coronopus Ruellii.

3. Bitter, Acrid, Slimy, Colouring Plants:

Luteola, Glastrum, Ophioglossum.

Chelidonium majus, the Bitterness is like the *Madders*, but the first seem to be of the *Pea-Class*.

4. Acrid joyned with a Sweetness in the Leaves or Roots, besides the Bitterishness.

Rapum, Rhaphanus, Brassica vulgaris, & multiflora.

Urtica has Sweet Acrid Roots.

Nettle-Juice tastes Bitterish, like *Cresses*, and is Diuretick like them, and Acrid.

5. Acrid, Bitter, and Fetid:

Eruca, Sophia Chirurgorum, Ruta, Fraxinella, which smells like *Ruta*, upon rubbing. *Gerard* supposes it to be called *Tragium*, from its smell of a *Goat*.

I refer *Rue* to this *Class*, by its Acrimony, and similitude of Figure to the *Cresses*.

The Seeds of *Fraxinella* grow in Cods; and by its Bitter-Acrid I have placed it here. *Fraxinella* has

has a sort of *Turpentine* Fragrancy at first, but upon rubbing, a *Rue-Smell*.

Dentaria is described, by Mr. Ray, to be *Gustu fervido*. Gerard describes it of an unpleasant Savor, and sharp in Taste, whose Flowers are shaped like *Stock-Gilliflowers*; and the Seed contained in *Corniculis*, like *Hesperis*.

The *Coralloides* is described of a Bitter and Hot Taste, having Seeds like *Rocket*.

For these Reasons I take these Plants to be of this Class.

6. Acrid with the Taste and Odor of *Pepper*.

Lepidium vulgare.

Piper sive *Capsicum Indicum*.

Jamaica-Pepper has a savour of *Cloves*.

7. Acrid, with the Odor of *Garlick*.

Thlaspi, *Alliaria*.

8. Acrid, Bitterish, Fetid, Rank, Slimy Roots:

Allium ursinum, *Corvinum*, *vulgare*, *Porrum*, *Scorodoprassium*, which has a mixt Smell of *Garlick* and *Leeks*.

Moly, *Cepe vulgare*, *Cepe Ascalonicum*, which is a *Leek*.

9. Bitter, Acrid, Gummy Plants, which being Umbels, are referred to them; but I place them here because of their smelling like *Garlick*: if they have a Sweetness, they are Umbels.

Panax Herculeum, whose Seed is of a pleasant Savour: This Plant yields a yellow Gum, called *Opopanax*, tasting Acrid, and smelling like *Garlick*.

In *Ammoniacum* I perceive a *Fennil*-Taste; and therefore it is the Gum of an Umbelliferous Plant.

Gum Elemi is Bitterish, Sub-acrid, Gummy, of a *Fennil*-Smell, very offensive; and it is also Terebinthinate and Resinous, dissolving in Oyl, and burning: it is said to be the Gum of an *Olive*-Tree, which is a *Laurel*-Bitter.

Afa is the Gum of *Laserpitium*, and comes also from a Shrub, like *Salix*.

Liquid Amber is a Resin of a Tree, like *Ivy*, and to be Classed with it.

The Eighth CLASS.

Of Corrosive Tastes.

THe Corrosive Salt is of some hooked Figures, because their Acrimony tears, corrodes, and sticks long on the Tongue, and burns the Mouth.

It is not improbable that there is a difference in the Figure of their Volatile Salts, since there is so great a one in the Fixt Salts of Plants, which are described by *Fracassatus de lingua*, in his Epistle; and there is also a great variety in Mineral Salts.

Sal

Sal communis, cubicus, octoedricum Alumen, Vitriolum Rhomboicum, Sal Ammoniacum in hexagonas cuspidulas abeat.

Mr. *Leuwenhock* gives the Figures of the Acid Particles of *Wine* and *Tartar*, pointed at both ends, which easily crystallize into other Figures, as into square Figures, by addition of *Crabs-Eyes*, and then they taste Salt.

If these Corrosive hooked Salts are joyned with an *Elder-Bitter-Slime*, they purge violently in the *Hellebors*.

If with an Oyl they constitute the Oily Corrosives, as in *Euphorbium* and the *Spurges*.

If with *Turpentine* they make the Corrosive Acid *Turpentine*s, as in *Cedar*, and *Perficaria acris*.

If an offensive Factor be joyned with these hooked corrosive Salts, they produce a Poyson, as in the *Aconites*.

The Species of Corrosive Tastes, are,

1. Watrish mild Corrosives.
2. The Acid Acid.
3. The Acid with Slimy Berries.
4. The *Crowfoot* Corrosives.
5. Fiery Fragrant.
6. With an *Elder-Smell*.
7. *Terebinthinate* Causticks.
8. Sweet and Fetid Acid Poysonous.
9. Milky, Resinous, or *Spurge-Corrosives*.
10. *Laurel-Causticks*.

1. Watrish

1. Watrish Corrosives in a low degree burning Acrid.

*Chelidonium minus.**Ranunculus pratensis, erectus, dulcis, & nemorosus dulcis, Aquaticus Hepaticæ facie, Caltha palustris, Cotyledon aquatica.**Ranunculus globosus, Sedum minus.*

2. With Sub-acrid Acid Leaves, whose Roots are also Acid Acrid.

Bellis minor, Anagallis flore Phæniceo; this as well as *Bellis* hath a Bitterness as well as Acid Acrid, by which it is good in *Fevers*.*Rosa Solis* smells Acid, and tastes so, with an Acrimony.*Pyrethrum*-Root is Acid Acrid, which is reckoned a Volatile Tartar; and it is used in making *Vinegar*.

3. Sweet Watrish Corrosives, with slimy burning Berries.

Aron, there is a Milky Juice in *Aron*-Root; and therefore the Corrosive lies in a Watry Gum, very Acrid, like *Euphorbium*.*Dragon-Flower* is Fetid; and *Aron* green Leaves smell of *Elder*.*Arifarum* is more Acrid than *Arum*.*Arifarum, Dracontium.*

4. Watry Corrosives, with a Pungent Acrid Smell; these are the Crowfoot-Corrosives, or Anemones.

*Ranunculus pratensis, flammeus, flos Adonis, Pulsatella, Anemone sylvestris.*5. Bitterish Caustick, with a fragrant fiery Smell, *Clematis sylvestris, latifolia, flammula Jovis.**Anacar-*

Anacardiums are Causticks and Aromaticks.

6. Very Bitter Causticks, with a Fetid Elder-Smell in the Leaves, but of a more Virose Fetid Root.

Helleborus niger, ferulaceus, Helleboraster, Staphys Agria.

Cyclamen, which is described by Galen, Slimy and Acrid, Purging violently, a Sternutory, *Pessus*; and discusses *Scirrhus Tumors*.

7. Terebinthinate Causticks.

Cedrus, Persicaria acris, maculosa; this smells strongly of *Turpentine* in the Leaves and Seeds; and therefore by that, and its Caustick Acrimony, it is the strongest Diuretick.

Walter Chetwind of Ingstreny, my Honoured and Ingenious Friend, gave me this Observation:

The Leaves of *Persicaria acris* in Powder, or Decoction, in Posset-Drink, are excellent in a suppression of *Urine*.

8. Causticks with Sweet Acrid Roots; very Fetid, being Poysonous.

Cicuta, this is usually reckoned amongst the Umbels, and supposed to have a Milk or Balsam, as the rest have.

Oenanthe Cicutæ facie, succo croceo, viroso; it is of a strong Fetid Smell, and the Juice is Exulcerating and Acrid, which is at first Milky, afterwards Yellow. The Factor produces Giddiness, like *Hemlock*. The Acrid causes burning in the Mouth and Stomach, and purges violently, with *Convulsions*; as Mr. Ray, and *Vander Wiel* observe.

Thapsia

Thapsia *Deadly-Carrot* is described to be Fetid, Milky, very Acrid and Bitter ; by which it vomits, and is Poysonous.

Christophoriana, *Napellus*, *Aconitum hyemale*, *autumnale*, *Lycottonum*, seem to be of this Species.

Apocynum is described by *Galen* very Hot and Fetid ; there is a Milk in it, and it is Poysonous by its strong Acrid and Fetids ; for the *Fætor* of Poysonous Herbs irritates the Spirits, or else fixes them as Narcoticks do ; the Acrimony corrodes the Membranes, and causes Anxieties and Inflations, or immoderate Evacuations and Inflammations of the Blood.

9. Milky, Resinous, *Spurge-Corrosives* :

Tithymalus Characias, *Cataputia*, *Peplus*, *Turpethum*, *Esula*, *Cambogia*, *Euphorbium*, *Scammoniū*.

Ficus ; the Juice of *Figs* burns ; the Leaves rubbed incline to the smell of *Rue* ; and its Milky Juice curdles Milk, by dropping it into Milk in a Spoon.

10. Bitter Astringents of a burning Acrimony, with fragrant Flowers and Berries ; these seem to be of the *Laurel-Class*.

Laurestinus which burns the Mouth.

Laureola is Acrid and Bacciferous.

Thymelæa.

Chamælæa, *Mezereon* have also sweet Flowers and Berries, as many of the *Laurel-Class* have ; and a *Tithymaline* Acrimony in the whole Plant.

Apocynum may be placed here, and *Oleander*, which killed some *Rabbits*, who eat the green Leaves :

It

Part VI. by their Tastes and Smells.

It has Cods like *Apocynum*; and is described *Odore foetido & acuto instar Raparum* in which its Poyson lies; but I could not observe that smell in the Garden-Oleander. All Poysonous Herbs are made milder by transplanting them from the Field into Gardens.

Mr. Ray describes a *Tew*, *Odore noxio & viroso*; and this *Tew* is a Poyson by that smell.

Arbor venenata; it has a Caustick Milk exulcerating the Skin, and by that it is a Poyson.

Fungi venenati; they are Fetid and Acrid, as other Poysonous Plants; the Acrid causes a Strangulation and Vomiting, and their Fetid produces a *Stupor*, fixing the Spirits; the crude Slime lies indigested in the Stomach.

Mushrooms, and other Plants, may be made Poysonous, by touching of Poysonous Animals.

These Tables I have made, manifest the distinct *Classes* of Plants, as they are distinguished by their Terebinthinate or Oyly Juices; and in them I have distinguished the Species, by the several compositions of Tastes, and the difference of Tastes, and different parts of Plants: Where the Taste can go no farther, I have mentioned the Smells to sub-distinguish; but the external accidents must be admitted to distinguish the particular Plant in each Species.

I will Instance in some more of the advantages of this Method.

The Antients, as *Dioscorides*, described the Tastes and Smells of many Plants: And *Galen* thought that
Method

Method so useful, that he used it for the examining Medicines ; and transcribed out of *Dioscorides* the Tastes of many Medicines, and on them grounded his *Methodus Medendi* ; therefore by this Method we shall more fully understand the Plants described by the Antients, and those excellent Notions which were grounded upon Tastes ; but our Moderns have neglected Tastes, and rambled into Chymical and Mathematical Notions, which can never explain the Humors of Animals, and the Vertues of Medicines ; for Chymistry only shews us the Principles of Bodies, but not the Qualities arising from their Mixture and Texture : And from the Mechanical Qualities we demonstrate what may be the Figure and Motion of Particles, but prove nothing of their real existence in Bodies.

This neglect of Tastes gave *Helmont* a just reason of complaining, *Nihil fere ab ipsius Dioscoridis tempore accessisse rei Herbariæ.*

By this Method we may know a Plant at any time, when the Seed, Fruit, Flowers are not in Season ; for their Taste and Smells are obvious in the Bark, Root, and Leaves.

It is a great advantage to Physicians to have Plants of the same Taste and Vertue ranked together, who cannot but allow of the Rule mentioned by Mr. Ray, *Quæcunque Plantæ saporibus conveniunt, facultatibus convenire consentaneum est* : therefore, if a Physician knows the Vertue of one Plant of a particular Taste, he will easily understand that they
are

are all of the same Vertue, which have the same Taste; and he need not put so many of them into a Medicine as is usually done, to trouble the Apothecary, and also inflame the Patient's Bill. The Specifick Juices are the most useful part of the Plant to Physicians, according to that Remark Mr. Ray has given of them:

Esse quintessentiam Plantæ, ejusque odorem & saporem reddere, viresque veluti concentratas in se continere, non diffiteor.

I conceive this Method of distinguishing Plants by their Oyly Specifick Juices, to be much to be preferred by Physicians to any other Method; because by the Taste of Plants we discover their Vertue, and by placing all of a Taste together we are sure to have them all of the same Vertue, and no other.

I suppose our Ingenious Herbalists will consider the easiness and shortness of this Method, which contains only Eight *summa genera*, and those obvious to our Senses; and they will observe that the description of the Taste and Smell of a Plant will give a better distinction of one Plant from another, than a whole Page of external accidents; and it will be more satisfactory than the Picture of the Plant it self. It seems impossible to remember all the external accidents, unless a Man reads nothing but Herbals all his Life; and *Galen* says, There were more writ in his days than any Person could ever read; but the general Tastes are but few, and the parti-

particular Tastes are obvious in every Plant I meet with, and desire to know.

I find a common Objection against this Method, That Plants have different Tastes in divers parts; but this I have answered already, by intimating, That the Oyly Juice does give the chief Taste, by which Plants ought to be distinguished; but the Juice in the Bladders is altered in the Fruit and Leaves only.

The taste of the Oyly Juice is always the most prevailing Taste in Plants, as the Taste of the Barks of Trees is the most general Taste in the Tree, but the Leaves and Fruit may differ, after a long digestion, but before it they had the same Taste, while unripe, as the Bark and the Skin of the Fruit; and the Seed retains usually much of the Taste of the Bark, as in *Peach-Kernels* and the Peel of *Oranges* is most evident; and in their Seeds the same Taste is usually found in all the parts of Sweet Aromatick Plants, and in Acrids, and the Corrosive; but more strong in the Seeds than other parts. The Bitters are most inclined to alter their Tastes from Austere to Acerb, or Sub-acid, Slimy, and Sweet Tastes, and Acrid.

Therefore in distinguishing of Plants by the Taste, we must first observe the most prevailing Taste in all the parts of the Plant, which is the Oyly Juice: Secondly, We must describe the Juice in the Bladders, and the alteration it receives in the Leaves and Fruit; for Astringent Roots bear Acerb
Leaves,

Leaves, which obscure the Taste of the Oyly Juice in the Leaves; as in *Sorrel*.

Some sweet Roots have bitter Leaves; as *Wormwood*. Sweet and Bitter differ not in Principles, but in their Texture; which is altered, from a smooth one to an unequal rough Texture in Bitters, by a farther Digestion.

In *Wormwood*, Dr. Grew observes *Turpentine-Vessels*, which give the Sweet Aromatick Taste to the Roots. And he also observes *Sap-Vessels* in parcels, which are arched like the Bitter Gum-Vessels: And these may give the Bitter Taste to *Wormwood-leaves*: The Astringency is in the Bladders.

Where Two Specifick Vessels happen in a Plant, the highest Taste is to be considered; and that which prevails most in the Plant, is to be esteemed the highest Oyly Juice for the distinguishing the Plant.

If the Juices in the Bladders of the Root, become Bitter in the Bladders of the Leaves; yet the same Aromatick Acid appears in the Specifick Vessels, in both Roots and Leaves.

The Seeds of the *Cresses* are more Bitter than the Leaves, because of the abundance of the Oyly Juice in them. And the Stalk is Bitter also, because the Juice of the Bladder is higher Digested, than in the Roots; where it tastes more Sweet and Acid; as in *Horse-radish*: So that we may allow the Juice in the Bladders of the Leaves, to be higher digested into a Bitterness, when they are only Sweet in the Root: But notwithstanding this change of

Z

Taste,

Taste, the Specifick Juice in *Cresses*, is the Milky Acrid Gum; and in *Wormwood*, the Aromatick Acrid Balsam.

The Second *Objection* is, That Plants have different Vertues in their several Parts; and so, by the Taste, we cannot reduce them of the same kind of Vertue, into the same *Classes*.

To this I Answer, That we usually allow many Vertues to the same Taste; and the Juices of *Vegetables* may have different degrees, of the same Taste, in their several Parts; and to that difference, several Effects are to be attributed: So in the Bark of *Elder*, and in the Leaves, there is the same kind of Taste; but of a different degree of strength, to Purge and Vomit: The Flowers, and Pulp of the Berries purge not so much; but they both purge a little: One handful of the Flowers boyled, purge: The Seed has more of the *Elder* Taste and Vertue, to vomit and purge; and all Purgers are also Diuretick; and if it be given in a great Dose, it vomits.

I could wish, That a few proper Vertues were allowed to each Plant, which it most eminently and constantly produces, by its peculiar Taste; and that other Vertues were rejected, which are more certainly produced by Plants of a more Specifick Taste.

The Third *Objection* may be, That the same Plant growing in the Garden, differs in Taste, from the
same

same growing in the Field, and its native Soyl; as in *Scurvy-Grass*, *Wormwood*, and all the Poysonous Plants, is most evident.

To this I Answer, That the Tastes differ in the Wild and Field Plants only in Degree, and not in the Kind, or Species of Taste; so *Sea* and *Garden Scurvy-Grass* have the same *Cress-Acid*, but the *Sea* is strongest: The *Wild Hemlock* poysons in a higher degree than the *Garden*; but both have the same Fetid Acrimony.

The fat Soyl in the *Garden* gives a greater Magnitude, and alters the crude Juices, towards a sweetness in the Bladders; as appears in *Carrots*.

In some Plants, the Smells do plainly Characterize the *Class* or *Species*; as in Aromaticks, Fétids, and Narcoticks, there is a Bitter Smell also, though *Galen* denies it; for we may plainly smell a *Peach-Bitter*, or *Laurel-Bitter*, in the rubbing of the Flowers of *Peaches* and *Cherries*: And in the green Leaves of *Laurel* and *Walnut*, we smell a Bitterness, which may be a note of the *Laurel-Class*; but the Species of Plants is not to be multiplied, where they have the same Taste, though some alteration happen in the Smell; for we may observe various Smells, in the different parts of Plants; and in some Plants, a compounded Smell.

I have not excluded the external Figure, from any consideration in the Classing of Plants, but allow it no farther, than as marks of distinction of

the several Individuals, under the same Taste; and a great help, for the better sorting of Plants, where the Taste is obscure. I observed, That many Plants had Leaves of other Plants, which agree with one another in Tast; as, *Pulsatilla Anemones facie*, *Quinquefolium Tormentillæ facie*; and by such similitudes of parts, I was directed to compare their Tastes and Vertues.

I have Classed all the Plants I have mentioned, according to such Tastes as I have observed my self, or borrowed from *Galen*, *Mr. Ray*, and others. I hope the *Reader* will not expect any exact Methodizing of Plants, but will correct all those Mistakes I am guilty of in this Design; in which, all I pretend to, is, To have proposed a useful and rational Method for distinguishing Plants; but this I shall leave to be perfected by Time, and those who have a better Skill in the general *Botanicks*, than I can pretend to, who live so far distant from any of our Famous *Gardens*; where I might, upon any doubt of a Taste or Smell, consult the Plant it self. And I cannot desert the Imployment of *Physick*, to prosecute thoroughly this pleasing Study, of the Tastes and Smells of the Juices in Plants, which renders *Botanicks* very useful to a Physician.

The End of the Sixth Part.

AN
APPENDIX
TO THE
Second Part
OF THE

ΦΑΡΜΑΚΟ-ΒΑΣΑΝΟΣ:

Containing Two Parts;

I. A TABLE of the Tastes of
Animal Humors, in their Natural
States: With many Observations
omitted in the *Second Part*.

II. The Tastes and Smells of
many Minerals, in their several *Classes*;
which were not fully described in the
Second Part.

LONDON, Printed in the Year, 1690.

A TABLE of Animal Tastes.

- I. Animal Humors of a Sweet Milky Taste; these are *Chyle*, *Milk*, and the Milky *Lympha's*.
- II. Animal Humors of a Slimy Sub-acid Tartareous Taste; as the *Slimes* of the *Stomach* and *Guts*.
- III. Animal Humors of a Sweet Vitriolick Taste; as *Blood* and *Spleen-Juice*.
- IV. Of a Fetid Animal Taste; as *Spirits*.
- V. Of a Fat, Greasie, or Unctuous Taste; as *Suet*, *Fat*, *Marrow*.
- VI. Of a Bitter, Acrid, Slimy Taste; as *Choler*.
- VII. Of a *Salso*-acid Taste, like common *Sal-Ammoniack*; as the *Serum* of the *Blood*, and *Salt Lympha's*, and *Sweat* and *Urine*.

An APPENDIX to the Second Part, &c.

I. Animal Humors of a Sweet Milky Taste, are either,

First, *Of a Milky Smell, or of no
considerable Smell.*

Secondly, *Of a Fetid Smell.*

First, **T**HE Humors of a Milky Smell, and
Milky Taste, without any Smell
considerable.

1. The Milk of the Breasts, which
is not different from *Chyle*, but by its being depu-
rated from Saltness, by the Glandules of the Breasts.
Milk has the Smell of the Animal from whom it is
drawn; and therefore the stronger the Blood, and
Smell of each Animal is, the more offensive is the
Milk: that Animal Savor of Milk, is the Vola-
tile Oyly part, and may be called the Spirit of Milk,
which is more Fetid in *Goats*, *Asses*, and *Mares*, than
in *Cows*; but that of *Women* has the most agree-

A TABLE of Animal Tastes.

- I. Animal Humors of a Sweet Milky Taste; these are *Chyle*, *Milk*, and the Milky *Lympha's*.
- II. Animal Humors of a Slimy Sub-acid Tartareous Taste; as the *Slimes* of the *Stomach* and *Guts*.
- III. Animal Humors of a Sweet Vitriolick Taste; as *Blood* and *Spleen-Juice*.
- IV. Of a Fetid Animal Taste; as *Spirits*.
- V. Of a Fat, Greasie, or Unctuous Taste; as *Suet*, *Fat*, *Marrow*.
- VI. Of a Bitter, Acrid, Slimy Taste; as *Choler*.
- VII. Of a *Salso-acid* Taste, like common *Sal-Ammoniack*; as the *Serum* of the *Blood*, and *Salt Lympha's*, and *Sweat* and *Urine*.

An APPENDIX to the Second Part, &c.

I. Animal Humors of a Sweet Milky Taste, are either,

*First, Of a Milky Smell, or of no
considerable Smell.*

Secondly, Of a Fetid Smell.

First, **T**HE Humors of a Milky Smell, and
Milky Taste, without any Smell
considerable.

1. The Milk of the Breasts, which
is not different from *Chyle*, but by its being depu-
rated from Saltnefs, by the Glandules of the Breasts.
Milk has the Smell of the Animal from whom it is
drawn; and therefore the stronger the Blood, and
Smell of each Animal is, the more offensive is the
Milk: that Animal Savor of Milk, is the Vola-
tile Oyly part, and may be called the Spirit of Milk,
which is more Fetid in *Goats*, *Asses*, and *Mares*, than
in *Cows*; but that of *Women* has the most agree-

able Animal Smell, being most like the natural Temper of those of the same kind.

The Sweetness of Milk shews, that it is very capable of Fermentation in the Stomach of Animals. And *Rennet* curdles it by Fermentation, and not by its Acidity.

In Milk we distinguish Four Parts.

1. The Seroſe Whey.
2. The Buttery, or Oyly Part.
3. The Cheeſie, or Viſcid Part.
4. The Acidity, evident in Butter-Milk.

Theſe ſeveral Parts of Milk have their uſes in Phyſick.

The Seroſe or Whey Parts are uſeful in diluting of Animal Humors; but eſpecially the diſtilled Milk Waters.

The Buttery Part of Milk, by its Oylineſs, allays the Acid ſharpneſs of Humors; and, by its Viſciditſy and Slimineſs, it tempers the Acrids; whence Milk is Anodyne in Clyſters, Eye-Medicines, and all Injections. Butter is emollient by its Oylineſs, and is ſomething Hot or Diſcuſſing: The Oyl of Animals being the Matter of Heat.

The Cheeſie Part in Milk, which *Hippocrates* calls τὸ σκευωδές, is very nourishing; and, by reaſon of its Gummy Viſciditſy, it conglutinates Wounds.

The

The Acidity in Butter-Milk is cooling, as all *Tartar-Acids* be ; and it is like the Sowreness of Vegetables.

2. The *Chyle* in the Thoracick-Vessels, tastes of a Milky Sweetness, with a manifest Saltness, and a strong favor of that particular Animal ; which I call the Animal Taste and Smell.

Tho' Dr. *Glisson* affirms, That *Chyle* has neither the Bitterness, nor the Savor of the Guts, nor the Saltness ; yet I find the Judicious Dr. *Lower* affirms its Saltness. I tasted the *Chyle* of a Dog, Fed with Flesh, before it came to the Receptacle, by cutting one of the Lacteals near the Guts, and I found the *Chyle* Sweet and Saltish, and of an Animal Savor : The same was the Taste of the *Chyle*, in the Thoracick ductus.

There is the same Parts in *Chyle*, as in *Milk*.

1. A Buttery Oyl.
2. A Seroſe Whey.
3. A Cheefie Viscid.
4. A Saltish-Acid, and *Tartar-Acid*.

The Slimy Sweetness of *Chyle*, shews it to agree with Milk, as well in Nature, as in Taste : This Sweetness of *Chyle* is tasted in the Urine, in a *Diabetes* ; where *Chyle* either wants its Sanguification, or else is diverted by some unknown *Lymphæductus* to the Kidnies, from the Glands of the *Mesentery*.
This

This Sweetness of *Chyle* is evident in the Blood, which is spit from a broken Vein in the *Lungs*; and from hence is the Sweet Taste of Blood.

This Sweetness is tasted in the *Saliva*, and the Milk of the Breasts; and therefore these, and all other Sweet Slimes arise from the *Chyle*.

The colour of the *Chyle* was White and Reddish, or Rosie, in the Chyliduct of the Buttery Oyl of *Chyle*, becoming Red by the mixture of the Acrid of *Choler*, which produces the Saltness: So Salt of *Tartar*, by digestion with Milk, turns it Red: And a mixture of *Crabs-Eyes*, *Vinegar*, and *White-Wine*, looks Reddish. Hence I infer, That the Acrid of *Choler* helps Sanguification, by turning the *Chyle* of a colour mixt of Red and White, it becoming wholly Red upon a perfect Sanguification.

From the different parts of *Chyle*, all the several parts of *Blood*, and other Humors, are prepared; and therefore all the parts of Animals have the principles of *Chyle* only altered by a higher Digestion, and new Mixtures, and different Textures: And therefore I think it very impertinent for Physicians to look after any other Principles of Animal Bodies, than what occur to our Senses, in *Chyle* and *Milk*; for these are sufficient to explain all the *Phænomena* observable in Animal Humors, without any Supposition of the Mathematical qualities of Atoms, or the Products of the Fire, by Chymistry; these are the curious Thoughts and Experiments of Philosophers; but the Physician needs none other

ther Notion, but what occurs by an obvious deduction from sensible objects : neither need we assert any other Principle, than a Seroſe, a Viſcid, an Oyly, and an Acid Principle in Animal Humors. Theſe are eaſily underſtood, and we need not conſider the farther Reſolution of theſe Integral Parts, (which I call ſenſible Principles) what ſort of Atoms compoſe them; And what their inſenſible Motion is: Nor whether all theſe may be reſolved into one Principle. For in theſe particulars, every Philoſopher has a different *Hypotheſis*, and asserts what he pleaſes.

3. The *Saliva* reſembles thin *Milk*, well diluted, and taſtes Sweetiſh, like *Milk*. *Milk* is moſt like *Chyle*, and thicker and ſweeter than the *Saliva*: therefore it is the firſt Humor ſeparated from *Chyle*; for the Nouriſhment of Nurſes, after Eating, immediately goes to the Breſts.

The *Saliva* is increaſed by the uſe of Milk-Meats; and is therefore of the ſame Nature with it.

4. The Milky Slime of the Glandulous Coats of the Wind-Pipe and Noſe: This returns out of the Bladders of the Lungs into the *Thoracick ductus* of the *Chyle*: And with this *Lympha*, I think it very probable that the Air paſſes into the *Chyle*-Veſſels, for the better mixing of it with the Blood; and this is the only way I think the Air can paſs into the Blood-Veſſel.

5. The Glandulous Milky Slime of the *Thymus*, ſeems to be of the nature of the *Saliva*; and is evacuated

vacuated either into the *Oesophagus*, or *Chyliferous Vessels* of the *Embryo*, for the supply of a sufficient *Lympha* for the *Chyle*.

Secondly, Animal Sweet Slimes, of a Fetid Smell, arising from *Chyle* highly digested.

1. The Male-Seed, which is Milky, Spumose, Viscid, and full of Volatile Fetid Oyly Particles, which are the Spirits of Animals: All the Seeds of Plants are Oyly, with a Slime adjoyned; these ferment the Bituminous Juices (which are imbibed by their Coats, out of the Earth) into the Nature of each particular Seed, for the Growth and Increase of the *Plantula Seminalis*, contained in the Pulpy part of the Seed: So Impregnation of the Female, is by the Seminal Ferment, which alters the new *Chyle* in the Veins of the Female, into an albuminous Nature, fit for the Nourishment of the *Embryo*, contained in the Female Egg.

2. The Glandulous Slimy *Lympha* of the *Vagina*, and the *Womb*, and of the Female *Testicles*; all which resemble the White of an Egg: This is the Female *Semen*; it becomes Milky by boyling, like the White of an Egg; if the White be hard Loyled, it smells very Sulphureous: These Sulphureous Particles are the active Ferment of the White of an Egg, which ferments both Bread and Milk, which it thickens and curdles; but swells and rarefies Bread, or Puddings.

The

The Seminal Milks of both Sexes are Fetid, like putrid Fish; and therefore have a greater quantity of Animal Fetid Particles, fit for the nature of a Ferment; which is generally in Animals a Slime; in which Fetid Particles are lodged.

Stum, which is the greatest of our Vegetable Ferments, has a Slimy Sweetness; and also a Sulphureous Smell and Taste, on which its great Activity depends as a Ferment.

The two Masculine and Female Slimes mix in the *Vagina* or *Womb*; the Spirituous Male Seed alters the Female Slime into that digestion, which is peculiar and fit for preparing the Nourishment of the Egg to be Impregnated, and for the *Embryo* contained in the *Cicatricula*. The Impregnate Slime passes through the Lymphaticks of the Womb, into the Females Blood; and, by acting on the Slimy *Chyle*, therein it prepares a fit Nourishment for the *Fætus* in the Egg: That Nourishment is determined to the *Ovarium*, by the Act of Coition, which heats the Back, and opens the Passages to the Eggs, and determines the motion of the Blood and Spirits to those parts.

The Sperm of a *Pearl*, dropt into Vinegar, is presently Coagulated; hence may be explained how Acids hinder Impregnation, when given for Medicine, or abounding in the Female Blood; for it is necessary that she have a sufficient Chylose Matter for the nourishment of the Egg; and that also of a sweet nutritive temper, neither too Salt or Acid, which
destroys

destroys the Male Ferment, or the *Embryo's* Nourishment.

3. The Glandulous Milky thin Slime of the Brain-Glands, being full of Fetid Oily Particles; for the Brain tastes Oily and Slimy, and of the Animal Fetid; from whence, I suppose, a Liquor is separated of the same Taste; for all the Glands have a Taste of their *Lympha's*.

The Animal Fetid Particles being very high digested, and of an Oily Nature are the Animal Spirits, diluted in the purest pellucid *Lympha* which can be separated from *Chyle*.

This Lymphatick Slime preserves the Spirits, as our *Noctiluca's* are preserved in Water; and I suppose the Spirits to be like them, having a lucid Nature, by the admission of Air through the Nervous Canals of the Nose; as that *Phosphorus* which is made of Blood, by pulling out the Stopple and admitting Air, it becomes an innocent Flame: And the different tempers and motions of the Spirits may most intelligibly be explained, by comparing them with different sorts of Flame. Blood it self is very Inflammable, and burns like Resin, with a yellow Flame; from the different tempers of the Blood, a different Luminosity in the Spirits is produced. Light is a thin Flame, and that is produced naturally in Animal Bodies, by Putrefaction, as in the shining Shells of Lobsters: And this is the ultimate Resolution, or Rarefaction of the Animal Oyl; which, like *Sulphur*, becomes more lucid, by being cleared

cleared from its Acid. Acids are the most Injurious to the Nerves, because they are prejudicial to the Light or Flame of the Animal Spirits; and hence, I suppose, the Spirits to be of an Oily Nature, and Fetid, as all the *Noctiluca's* be.

4. The Lymphid Humors of the Eyes, are not improbably the *Lympha* of the Nerves; especially the Vitreous Humor which is next to the *Optick Nerve*. The Aqueous Humor probably is derived from the Glands about the Eye; and if it be emptied by puncture, it fills up again, and is a Seroſe *Lympha*. This Vitreous Humor tastes Slimy, and so does the Crystalline; and these two only differ in Consistence.

The Vitreous Humor becomes more Limpid, by beating it in a Spoon, and then it has some little Saltneſs, which did, after some time, turn Syrup of *Violets* green; as all Animal Humors do, in which there is a Salt. This Vitreous Humor did not turn thick, by Oyl of *Vitriol*; nor altered, with Spirit of *Harts-Horn*; but it becomes White by boyling, and a little White by the Acid.

It appears very pellucid, like *Crystal*; and in it seems to be lodged the furious hot Spirits of *Dogs*, *Cats*, and *Lyons*, which appear lucid in the dark; for which reason, I suppose it to be the *Nervine Lympha*, and the hollow of the Eye to be the dilatation of the Nerve, whose Membranes and Fibres are manifestly spread in the hollow of the Eye; and therefore the Humors of the Eye flow from the *Nervose*

vose Fibrillæ. The external Light, which is reflected from an Object, cannot move the *Fibrillæ*, to cause Vision; but more probably, it acts on the Luminous Spirits of an Animal, modifying them into the same Figure and Motion which they have from the Object.

II. Animal Humors of a Slimy, Sub-acid Taste, and Viscid Consistence.

THESE have little Sweetness, but only the Slimy part of the *Chyle*, and the *Tartar-acid* of it, which remain after the Spirituous Sweetness is separated by the Brain-Glands, &c. or digested into other Tastes.

1. The *Mucous* Sub-acid Slime of the Glands of the *Stomach* and *Guts*.

2. The *Lympha* of the *Pancreas* is of the same Nature, Slimy and Sub-acid, and designed for the same use as the *Lympha* of the *Guts*, viz. The Fermentation of our Meat.

Those Slimy, Viscid, and Sub-acid Humors, arise from the *Chyle*, which is long digested with the Blood, till it becomes Viscid and Sub-acid, like the *Tartar-acid* of *Butter-Milk*.

All Ferments are Slimy, as *Barme*, and *Rennet*; they have also hot, strong, or fetid Particles, lodged in the Slime, and preserved by it. These Fetids are the active Principles of Fermentation in *Rennet*, and likewise in all Animal Ferments, as in the *Semen*, and the Slimy *Lympha's* of the *Stomach* and *Guts*, which ferment the Nourishment received into the *Stomach*. This Fetid, in the Slimy *Lympha* of the *Stomach*, is communicated from the *Nerves*; and is that I call the *Animal Fetid*. The Sub-acid helps the Oily-Fetid in its Fermentation; as *Nitre* helps Sulphureous Minerals in their Conflagration, and Explosions.

I could not coagulate this Slimy *Lympha*, by the Acid of Spirit of *Salt*, or by the *Fire*. I gathered it by two Ligatures, made in the *Guts* of a *Rabbit*; and emptied the space betwixt them, for the reception of the Slime.

3. The Slimy Sub-acid Humor, separated by the *Spleen*, which helps the separation of *Choler* by the *Liver*. This is the Vitriolick Acid of the *Blood*, which, joyning with the Bitterness of *Choler*, produces the Acrid observable in it: So, by the mixture of Bitter and Acid in Plants, a Salt taste is produced: And from Acrid Plants, as *Horse-radish*, I have distilled an Acid Liquor.

Note, That all the Conglomerating Glands look white like their Milky Slimes: And though some of their *Lympha's* be Sweet, yet these last mentioned are less Sweet, and are either naturally Sub-acid, or

else turn so immediately upon Stagnation in the *Stomach*.

All the Slimy Sweet *Lympha's* are properly supplied by sweetish Slimes, or Milk Diet, when they are deficient. These Slimes being naturally produced from *Chyle*, which is Sweetish, and like Milk.

The Slimy Sub-acid Humors are best supplied by *Tartar-Acids*, which quicken the Appetite, and help Digestion, especially the well digested Acids of ripe Fruits, and Wine it self, which is Sub-acid.

There is a Volatile Acidity in the Contents of the *Stomach*; for all digested Vegetables smell and taste Acid, with a mixture of Fetid; such is the Smell of the same Vegetable, if it be artificially digested: And the Acidity is generally more evident to the Smell, than the Taste, which is a sign of its being fermented.

When the Spirituous Oily Particles of *Chyle* are carried off into the *Lacteals*; the remaining contents have the Acidity of *Vineger* in the *Colon*; and therefore the *Ascarides* are bred there, which resemble the *Eels* in *Vineger*: This Acid has a putrid Savor joyned with it, which is produced by a precedent Fermentation. This Acid is produced from the *Tartar* of Vegetables; which being Fermented or Distilled, it appears Acid Oleose.

The Contents of the *Jejunum* are Bitter, from *Choler*; of the *Duodenum* Salt; the *Choler* being turned to Salt, by the mixture of the Acid Contents of the *Stomach*; and the Excrements have the Colour, but not the Bitter of *Choler*.

III. Ani-

III. Animal Humors of a Sweet Vitriolick Taste.

THE Blood of all Animals taste naturally Sweet Vitriolick, with a Saltness, and a favor of the Animal Fetid. I observed this Vitriolick Taste in the Blood of a *Carp*, and in that of a *Chicken*, and in the Blood of a healthful *Woman*: And I have often found this Observation confirmed, by the Tryals made by divers other Persons, to whom I communicated it, both Physicians and Chirurgeons, who agree with me, in asserting the *Steel Taste of Blood*.

This Vitriolick Stypticity in *Blood*, probably arises from the *Tartar-Acid* of *Chyle*, fixing on the Terreous or Osseous parts of the *Succus nutritius*, swimming in the *Blood* after its full digestion; for all Stypticity arises from the mixture of an Earthy part, and an Acid. If we mix common *Tartar*, and *Steel Filings*, a strong Vitriolick Salt is produced, like the Taste of *Blood*.

I did not perceive any *Steel Taste* in *Chyle*, neither will *Chyle* turn Syrup of *Violets* green, as the *Serum* of the *Blood* does; and therefore I believe the Vitriolick Taste is produced in the *Blood*; but the sweetness in the *Blood* is from the *Chyle* mixt with it.

The use of this Vitriolick Stypticity is very evident, and necessary to the *Blood*.

1. From the effervescence of this Vitriolick Acid, with the red Oily part of the Blood, the Heat of the Blood depends: So, by the mixture of the Oyl of Human Blood, with the Oyl of *Vitriol*, Mr. Boyle produced a lasting and burning Heat.

2. This Animal *Vitriol* may be called the proper peculiar Acid, or *Tartar* of the Blood. This supplies the Acidity for the *Spleen*, whose substance tastes Slimy Vitriolick, and abates the high Ebullitions of Blood, as other Stypticks do; and thereby preserves the Consistence of it, and precipitates the *Choler* from the *Blood*.

This *Steel* Taste in Blood, may probably be the first occasion of using *Steel* Medicines, for the strengthening of the Blood; for in all the Humors of Animals, for the increasing or helping their Preparations and Secretion, we use Medicines of the same Taste as the Humor.

Vitriolum Martis does not coagulate the *Serum* of the Blood, tho' *Alum* does curdle it into a white Curd; therefore the natural effect of this *Steel*-Taste in Blood, is only to preserve the Consistence, as Stypticks do, but not to coagulate, which would be injurious to all Animal Humors.

Common *Vitriol* Powdered, coagulates the *Serum* and *Lympha's* of the Blood.

This *Steel*-Taste in Blood, gave me a hint of putting *Galls* into the *Serum* of the Blood: And I did

did thereby, divers times, turn the *Serum* black; but at other times the Experiment did not succeed, which I attributed to a certain proportion of *Galls*, or else too much or too little of the Bloodiness in the *Serum*. I made a strong decoction of *Oak-Bark*, and put to it some Bloody *Serum* out of the Chirurgeons Dish: I let them stand Twelve hours, and then found the red Colour turned blackish, and the *Serum* was precipitated or curdled: This shews the precipitating Faculty of Stypticks: And also, that the preternatural blackness in Urine and Stools depends on an Acid, which is called the Splenetick Humor: So *Vineger* turns the red part of the Blood black. This Decoction of the *Oak-Bark* had stood Two days before I used it, but it did not taste Acid, but Austere Styptick. This must stand long mixed with the *Serum* of the Blood, at least 12 hours.

Jesuits-Powder would not turn the *Serum* black, but I put some of it into a Solution of green *Vitriol*, and it turned the Solution greenish, which it was not before. Therefore the *Jesuits-Powder* operates on the Blood, most by its Bitter, but yet something also, by its Stypticity. *Abele-Bark*, which I call a *Laurel-Bitter*, turned the mentioned Solution green, as the *Jesuits-Powder* did. *Tormentil-Roots* made the Solution of a deeper green; but *Galls* which are a high strong Austere, turned it purple. *Bole* could not turn the Solution, though it be Styptick.

By these Experiments it is evident, That Stypticks, if Acerb, like *Alum*, coagulate the *Serum*

of the Blood; but if Austere, they precipitate and alter the Vitriolick Acid of the Blood.

I put some Syrup of *Violets* into the *Serum* of the Blood, which turned green upon stirring of it; That this greenness did not proceed from the *Ammoniac* Salt of the Blood, I was convinced, by the following Experiments.

Common Sal Ammoniac dissolved in fair Water, and mixed with Syrup of *Violets*, did not turn the Syrup, neither did strong *Urine* turn it green, in which there is a greater quantity of the *Ammoniac Animal Salt*, than in the same quantity of the *Serum* of the Blood; therefore I believe the greenness in the mixture of the *Serum* of Blood; and the Syrup of *Violets* did proceed from the *Steel* Taste of Blood; for *Steel* Liquors turn Syrup of *Violets* green, and all Chalybeate Waters.

I observed a Vitriolick *Steel* Taste in fair Water, in which I quenched heated Pebbles; but this would not ferment with Acids, nor turn with *Galls*: This *Steel* Taste was from the Sulphureous Martial Acid of the *Flints*: And I suppose the Animal *Steel* Taste to be of the like Sulphureous Acid nature.

This *Steel* Taste does plainly demonstrate the similitude betwixt Minerals and Animals, and the circulation of Principles; as I have asserted in the *Second Part*.

The Mixture of *Choler*, and Syrup of *Violets* looks Green, because Yellow and Blue mixed, produce that Colour; not upon the account of its Acrid Salt
con-

contained in it, as I did upon the first tryal suppose; and that the Animal Salt cannot turn the Syrup, is proved by this, because *Chyle* will not turn that Syrup, tho' it taste very Salt.

The Vitriolick Acid of the Blood, if it be Evacuated into the *Stomach*, upon the Obstructions of the *Spleen-Glands*, it therein produces all the Hypochondriacal Symptoms.

The abundant quantity of this *Vitriol* in the Blood, produces the *Stone*, *Gout*, *Scurvy*, and all the Hypochondriacal effects in the Nerves.

It may be objected, That it is impossible that the same Vitriolick Acid should both ferment and hinder the Ebullition of the Blood; but this may clearly be answered, by asserting, That a very Sulphureous Acid ferments the Humors, by acting on the Oily part, and agitating of it; but if the Vitriolick Acid be very Styptick, it stops Fermentations. This is evident in the different Preparations of *Steel*: The Sulphureous Acid Preparations raise the Blood, but the more Styptick, as *Vitriolum Martis*, fix the Humors, and stop their irregular motions. *Vitriolum Martis*, and all *Steel* Acid Preparations increase the Styptick *Vitriol* of the Blood; as also all Acerbs, and Styptick Spleneticks; but the Sulphureous Filings of *Steel*, and especially the Preparations of *Steel*, made by Animal Salts, ferment, agitate, and rarefie the Oily parts of Blood, and all its viscid Slimes.

IV. Animal Humors of an *Unctuous Taste*.

1. **T**HE Fat of Animals, which is a mixture of the Chylose Butter, and Acid, which coagulates it, as Oyl *Olive*, coagulates by Spirit of *Nitre*; and this will melt like it. Fat is very Inflammable, like Oyls, and I can most aptly compare this to the *Turpentine*s of Vegetables.

2. The *Marrow* in *Bones* is Oleose, and more Fluid than *Fat*; it preserves the *Bones* from dryness and brittleness. *Bones* were, at their first growth, like a Jelly; as appears by the Teeth of young Creatures; other *Bones* are Ligamentous, and by addition of much Earthy Nourishment, become hard: The immediate Nourishment of the *Bones* is a Viscid *Serum*, such as constitutes the Jelly boyled from *Bones*, and *Ligamentous* Parts: And it may be observed, that the shaving of old *Bones*, smells not unlike old *Cheese*; and therefore *Bones* are nourished by the Caseous parts of *Chyle*.

The *Marrow* is like the *Balsams* of Vegetables, in consistence and use.

3. The *Suet* is of an Unctuous Gummy Taste, having a viscid Slime, coagulate with the Oily *Fat*, and resembles the Gum-Resins of Vegetables.

The *Fat* of Animals is first consumed in Emaciating

ating *Fevers*; and therefore is probably the matter resorbed into the Veins (as *Malpighius* has observed by his Glasses) necessary to supply the red Oylly part of the Blood, as it spends by the generation of Spirits, or Evaporations.

V. Animal Humors of a Fetid Taste, having the peculiar Savor of each Animal.

THE Oylly Acid red part of the Blood (like the Resins of Vegetables) gives the highest Smells and Tastes; from this red part is the highest digested Oyl, which gives the Animal Taste and Smell to the Bodies and Humors of each Animal. This Fetid Savor we taste in the Flesh of the *Muscles*. This Fetid is evident in *Eggs*, which smell like their several Birds to whom they belong. This *Fætor* is evident also in Horns and Hoofs, in the highest degree.

From this red Oyl of Blood, is the natural Spirit of it, which is distilled and separated into Animal Spirits, as it becomes more Rancid or Fetid; which also returning from the *Nerves* into the *Blood*, it gives the Animal Fetid to each Humor, separated from the Blood, and this constitutes the active Fetids in all the Animal Slimes. This Animal Fetid
circu-

circulating from the Blood into the Nervous Juice; and, returning with that into the Blood again, becomes more Volatile, Fetid, and at last Inflammable and Lucid.

All Vegetable and Mineral Fetids increase this Animal Fetid Spirit; and also help the production and motion of the Fetid Animal Spirits; as all Antimonial *Sulphurs*, and Fetid *Gums*, as *Assa foetida*.

Mr. Boyle's History of Blood. $\frac{1}{2}$ lb. of Blood yields, by distillation, $\frac{3}{4}$ lb. of Oyl; and the Oyl of Blood is both red and yellow, by distillation. Spirit of Wine extracts a yellow Tincture, as it does from some Resins; but Volatile Spirits, a red Volatile and fixed Salt dropt on Blood, increases the Floridity, and so does *Choler*, which is very Acrid, and also the Acrid Juice of *Scurvy-Grass*; but *Vinegar*, Juice of *Lemmons*, and all Acid Spirits, abate the Florid, and coagulate the Blood. The Florid part of the Blood separates from the *Serum*, unless it be long stirred with it, as some Watry Gums do; as *Aloes*, *Opium*, &c.

From these Experiments I conclude, That the red part of the Blood is Oily and Gummosc; for these dissolve by Spirit of Wine, and Salts, but are coagulated by Acids.

The red colour remains after the Evaporation of the *Serum*, in the dried Cake; and this redness is not lodged in a Volatile Oyl, but is fixed by an Acid, as the Oyls in Gum-Resins.

The Animal Fetid may be distilled in the cold Still; and therefore is Volatile: It vomits readily with

with Oyls, which argues its nature to be from the red Oyliness of the Blood.

The Spirit of Blood, by Fermentation, is very Fetid; and therefore a good *Anti-hysterick*. It is also Salt, correcting the Acids of the Glands, and stagnation of Humors. It is Diuretick, and Diaphoretick, as all Salts be.

The Cake of Blood in a healthful Person, exceeds the *Serum*, as I have often observed by weighing of both in ordinary Scales.

VI. Animal Humors of a Bitter, Sweet, Acrid, and Slimy Taste; as Choler.

THE sweetness in *Choler* shews its original Rise from *Chyle*; and sweet *Chyle* becomes bitter by a farther digestion. The red part of the Blood may become yellow by digestion: And out of Blood, an Oyl may be distilled of both Colours. I have observed *Choler* of a red, yellow, green, and blue Colour in different Animals; so we may observe in the same Animals, a diversity of Colour, when the *Choler* comes into the *Stomach*, and is there mixed with Acids: The same varieties of colour we observe in *Turpentine*s; a green Oyl may be distilled from *Turpentine-Trees*; and a red and

and yellow Oyl from *Turpentine*; there is a bluish *Turpentine*, in the middle of the Flowers of *Flos Solis*, which, like the *Conyza's*, is a *Turpentine* Plant. Since *Turpentine* varies its colour, like *Choler*, and has the tastes of *Choler*, as Bitter, Slimy, Sub-acrid. I think it an excellent Hepatick; and it is also Clean-
 ing and Laxative, like *Choler*.

The Acrid Pungency of *Choler*, is the ground, and one of the parts of the Animal Salt; for when it is united with the Tartareous Acid, produced by digestion in the *Stomach*, and also with the natural Acid of the Glandulous Slimes, and that of the *Lympha* of the *Pancreas*, the first *Ammoniac Salt* is produced; for if we taste the *Chyle*, strained from the Contents, we may taste it Salso-acid in the *Lacteals*.

This Acrid in *Choler*, like the Acrid in Plants, after a perfect Putrefaction, turns into a Volatile Urinous Salt; as is evidently proved by *Wedelius*, in the Preparation of *Woad*, which tastes Acrid; and without any Fire, it sublimes a Volatile Urinous Salt, in its Preparation by Putrefaction; yet the fresh *Woad* tastes only Acrid, and not Salt; but the Fermentation turns it to Salt.

The Slime of *Choler* is from the *Spleen*; and the different Colour is from a diversity of digestion of the Oyl in each Animal, and the diversity of the *Spleen*-Acid joyned with the *Choler*. The Juice of the *Spleen* is Vitriolick and Slimy; the black Colour of the *Spleen*, is a true sign of the Acidity of
 its

its Juice ; for all Acids give a blackness to the Blood. The colour of the *Spleen* is more florid Red in young Creatures, and blacker in the old, by reason of a greater quantity of the Vitriolick Slime produced in them ; which blackens the Blood, and that gives the Colour to the *Spleen*.

VII. Animal Humors of a Sal-Ammoniac Taste, being Salfo-Acid.

THis *Sal-Ammoniac* shoots into Feathers in frozen Blood, and may be easily observed, like the Teeth of Combs. Dr. *Grew* mentions the Figure of the Animal Salt like Crosses ; but I can more certainly describe any Salts by my Taste, than by any Glasses ; and their Nature and Vertue will more clearly be apprehended, by their manner of affecting the Organ of Taste, than by consulting their Figures ; tho' these may explain the Modes of Taste, and the operation of the Salt on our Humors.

1. The *Serum* of the *Blood* being only the *Whey* part of the *Chyle*, dissolves most of the Animal Salt : This is the Vehicle of the thick Mass of *Blood*, rendering it diluted and fluid. In the *Serum* there is little Oyl, but much of the Viscid and Cheesie Particles :

ticles: These may be observed by Inspissating the *Serum* by the Fire, and by curdling of it by Acid Spirits, or *Alum*. *Vineger* whitens the *Serum*, and Oyl of *Vitriol*; but Spirit of *Nitre* thoroughly coagulates it into a white Curd, like *Alum*. If we let the *Blood* run from an opened Vein into a Dish, containing Spirit of *Salt*, it will presently coagulate, look black, and it will have no *Serum*.

Spirit of *Sal-Ammoniac* makes the *Serum* more clear; and therefore we may suppose the *Salt* of the *Blood* promotes its fluidity. If the *Blood* be received in a Dish, in which Spirit of *Sal-Ammoniac* is put, it will not coagulate. This shews the effects of Volatil Salts on the *Blood*.

I mixt Oyl of *Turpentine* (and Oyl of *Aniseed* did the same) with some fresh *Blood*, but it looked more black, and not more florid, as I expected; and common Oyl made the Florid rather darker, which I could not well explain; there being no Acid nor Volatile Salt in the Oyl *Olive*, tho' there be in Oyl of *Aniseeds* and *Turpentine*.

Mr. *Boyle* and *Bonetus* affirm, That the fixt Chymical Salt of *Blood*, made by Calcination, tastes more like *Sea-Salt*, than a *Lixivial*; but, by its Precipitation, after the manner of *Lixivials*, and not like *Sea-Salt*, it is a *Lixivial*, made from the *Tartar*, or *Vitriolick Acid* of the *Blood*, in which there is a mixture of Earth, Oyl, and Acid; these, by being united more closely by the Fire, become a fixt Salt. But this is the product of Art, by the
Fire,

Fire, and is not naturally found in the Humors of Animals; and therefore no effects can be imputed to it, tho' many Authors suppose it.

2. From the *Serum* of the *Blood*, all the salt serose *Lympha's* are produced; and separated by the conglobate Glands; and this returns into the *Chyle* Vessels and Veins: There is a Saltiness in this *Lympha*, which shews its origine from the salt *Serum* of the *Blood*. There are Caseous parts in the salt *Lympha*, and therefore it may be inspissated by the Fire; and, of it self, being exposed to the Air, it turns to a Jelly in the Spoon; for which reason, it may be esteemed the proper Nourishment of the Ligamentous parts of the Animal, because such like Jellies are boyled from them: The *Serum* of the *Blood* will not become a Jelly, like the salt *Lympha*; but this may be imputed to the longer digestion a Humor has had. This salt *Lympha* has a higher digestion than the *Serum*, because it is separated from it. *Chyle* will not exactly inspissate by the Fire, so soon as the *Serum*; but will more easily be coagulated than the *Serum*: Notwithstanding this difference, *Chyle* is digested into the *Serum*, and likewise the *Serum*, after some alteration, by digestion it becomes of a nearer consistence to the nature of a Jelly: And so it is made more fit for the Nourishing of the Animal. This Gelatinose *Serum* being well diluted, constitutes the *Lympha salsa, serosa Glandularum conglobatarum*.

Besides this useful *Lympha*, there is an Excrementitious,

titious, feroſe, ſalt *Lympha*, ſeparated from the *Serum* of the *Blood*, when, by digeſtion, it becomes very thin, ſalt, and putrid: And this is the Matter of *Sweat* and *Urine*.

Theſe different ſalt *Lympha's* may be obſerved in divers parts of the Animal; but they are uſeful, and not excrementitious.

1. The *Lympha* in the *Pericardium*, diſtilling from the Glandules of the *Pericardium*; this is neceſſary for the motion of the Heart, and taſtes *Salt*, and inſpiſſates by the Fire.

2. The Liquor in the *Amnion*, which taſtes *Salt*, and is the firſt Nouriſhment taken into the *Stomach* of an *Embryo*. This ſeems to be the *Succus Nutritius* of the Female, ſeparated by the Glands of the Womb, for the uſe of the *Fœtus*: The Saltneſs ſhews it to be a product of the *Serum* of the *Blood*, which being digeſted into a certain degree, and of a conſiſtence fit for Nouriſhment, it is made capable of a Secretion, by its particular Glands. The *Serum* of the *Blood* is of a mixt Nature, containing the freſh *Chyle*, newly turned into *Serum*; it alſo contains ſome of the old *Serum*, which grows very putrid and ſalt by long digeſtion. In the *Serum* is alſo contained the *Lympha Salſa*, returning out of the Lymphaticks: Out of all theſe, there is made one common Fluid, which we call the *Salt Serum* of the *Blood*. This *Serum* containing different Liquors, and acquiring different States in its crudity, perfect digeſtion, and alſo its putrefaction, it may
very

very well produce a difference of *Lympha's*; and they may also differ much from the common *Serum*, after their Secretion.

It will not be amiss, to observe the different States the Aliments pass, before they make the highest perfect degree, in which they become fit for the Nutriment of Animals.

Our Meat contains a sweet Slime: This is fermented into the nature of *Chyle*, and that defæcated from its Acidity in the *Guts*, by the Acid mixture of *Choler*; it acquires in the Lacteals, the state of salt *Milk*; from whence it is changed into a salt *Serum*. From thence, by digestion, it becomes the salt *Lympha*; and by often circulating into the habit of the Body, the gelatinose *Lympha* becomes Fibrous, which constitutes the highest state of the Animal nutritious Juice: And I believe we must allow three different states of the *Succus nutritius* in the Blood.

1. Whilst it is Chylose, it may nourish the conglomerate Glands, which look Milky.
2. The *Lympha salsa* may supply fit Nourishment to the conglobate Glands; and also to the Ligaments and Bones.
3. The Fibrous Cake of Blood seems the fittest Nourishment for the Fibrose Muscles of the Body.

3. The *Lympha* separated by the Glandules of the Brain, being probably the super-abundant *Li-*

quor Nervosus; too much of which would drown the active Spirits, or clog their motion.

4. The Tears which are a Glandulous salt *Lympha*, naturally moistening and cleansing the skins of the Eyes; and for that end, we use salt Ophthalmicks to cleanse away the Gumminess of the Humors from the Eyes.

Tears are violently forced out by a Passion, which stops the motion of the Arteries in some other parts, and quickens them towards the Eyes, for the supply of Tears.

5. The conglobate Glands of the Mesentery taste Salty; and therefore separate a salt *Lympha* from the Blood, which passes to the *Receptaculum commune*, but some *Lympha* may be separated from the *Chyle*, which goes towards the Kidnies, as is probably conjectured; for the *Urine* could not appear so thin, and pass so soon in great quantity through the Blood and Kidnies: And if there were not provided such diversions for the quantity of Liquors we drink, the Blood would wholly be destroyed in its mixture, and the Vessels over-distended; but by this Passage the abundant Serosity of the *Chyle* is evacuated, and many Injuries to the Blood prevented; and by the dilatation of these unknown Vessels, the *Diabetes* happens, after Drinking of Waters, or other Liquors in great quantity: And in that Distemper, the *Urine* is pale, but sweet like *Chyle*.

6. The *Lympha* separated by the *Glandulæ Renales* is Salt; for the Glandules taste Salt, and therefore

fore seem to have the nature and use of conglobate Glands. These Glands separate a salt *Lympha* into their Cavities, and return it immediately into the *Cava* or emulgent Veins, where the secretion of the salt Urinous *Serum*, by the emulgent Arteries, has made it deficient.

These Glands were made for the use of the *Fœtus*, in whom they equal the Kidnies; for the Urine Membranes of the *Embryo* would be too much filled, if too much of the salt *Serum* of the *Blood* passed the Kidnies. The *Blood* would want its due dilution, if none of it returned by these Glands into the *Cava*: Therefore the use of these Glands is to preserve a due quantity of the salt *Lympha* in the *Blood*, and to hinder the Urine-Membrane from too great a fulness in the *Embryo*, whose Water tastes but little of Salt.

Malpighius has described the structure of the *Reves succenturiati* to be like that of the Kidnies; and therefore they separate the same sort of *Lympha salsa*. He mentions a *Diaphanous salt Lympha* to be separated by the *Peritonæum*, *pleura*, *tunica vaginalis*, which is of the same nature. Those *Lympha's* which will not coagulate by powdered *Vitriol*, have least of the Gelatinose Particles.

The Excrementitious salt *Lympha's* are Sweat and Urine.

1. The *Sudor*, which is a Glandulous *Lympha*, very Salso-acid. *Galen* says it is Bitterish: It smells Sowre.

B b 2

2. The

2. The *Urine*, which is separated by the Glands of the Kidnies.

Both *Sweat* and *Urine* have Fetid and Lixivial Smells.

The *Salt* is from the *Serum* of the *Blood*, of a Salso-acid nature, like common *Sal-Ammoniac*. The *Urine* yields a Spirit less Oily than any other Humor of an Animal.

The Contents in the *Urine* are the superfluous parts of the *Succus Nutritius*, which turn the *Urine* muddy by Cold.

The *Urine* will effervesce with the Oyl of *Vitriol*, which is a sign of its Volatile Salt.

Urine long kept, is said to burn like *Brandy*, and to colour *Silver* yellow as *Brimstone* does. And also it certainly conduces to the production of *Nitre*.

By these Instances I may confirm my former assertion, That the Principles of Animals do naturally return into a Mineral State, and produce real *Sulphurs*, *Salts*, as *Nitre* and *Stones*.

The colour of *Urine* is from the Contents, and also from *Choler*, which readily passes by *Urine*; and dissolves readily upon mixture with it. The Salt of *Urine* is produced by the mixture of the Volatile Acid of digested Meat, and the Bitter Acrid of *Choler*, (which is the reason why *Chyle* tastes not Acid, Bitter, or Acrid) for the Acid corrects the Bitter Acrid of *Choler*, and curdles *Choler*, and both unite into the Animal Salt; which is evident in *Chyle*. The bitterness in *Choler* is produced by the
Spleen;

Spleen; Acid mixing and uniting with the red Oyly part of the *Blood*, which it precipitates from the *Blood*; and thereby prepares it for its separation through the *Liver*. I dropt some Oyl of *Vitriol* into the *Blood* about the *Liver*, and found it to look yellow like *Choler*: By the Acid of the *Spleen*, the red colour of *Blood* may be turned yellow. The red *Hepar Sulphuris* has less Acid than the yellow Flowers. I must also observe, That Bitter in Animals must have the same Principles as Bitterness in Plants, which have much Earth and Acid, and Oyl digested into a rough ungrateful Texture.

I have transcribed these Remarks about *Animal Humors*, from a larger account, in a Discourse about the tastes of Diet: And I have grounded some Assertions on Experiments I have mentioned in those Papers; but I think these Observations sufficient to explain the Operations of Medicines by their Tastes on *Animal Humors*; and to justify that Assertion, I have made, as a general Rule, That all Medicines and Meats which have the same Taste and Smell as the Humors of Animals, do increase, digest, prepare, and help the Secretion of those Humors they resemble. And for that reason, such Medicines may be called the *Friendly Specificks*; but the contrary Tastes to them, may be used as Alteratives in the diseased state of the Humors.

The Slimy, the Acid, or Styptick Tastes, are the crudest Animal Tastes, and are produced by the lowest digestion. The Sweet and Oyly Tastes are

most Temperate and Nutritive; and therefore have a natural moderate digestion. But the Bitter, the Acrid, the Salt, and Sulphureous Vitriolick Acid, are the Hot Animal Tastes; and are produced by the highest digestion of Humors in Animals.

I cannot observe naturally any Fermentation of Humors in any part of the Animal, but in the *Stomach*, where the first preparation of our Diet is made: And there it was necessary to turn the Vegetable Principles into an Animal nature; and to change the slimy sweet Juices of the Aliment, into a sweet milky *Chyle*. From the sweet *Chyle* all other Juices in an Animal are prepared, by digestion, mixture, or secretion, without the help of any Ferment.

So we observe the tastes of Plants to alter: The Sweet becomes Bitter; the Bitter, Acrid; the Acrid, Salt; and the Salt Corrosive. All these Tastes are produced successively, by a degree of a higher digestion; by which only, the Texture of Principles is altered into a new one. So in *Cheese*, which is an Animal Product, we observe a sweet Gumminess or Slime, whilst new; in the old, a Bitterness, and a biting Acrimony, which alteration happens without any new Ferment.

The Glandules separate each Humor, when they have acquired that Taste and Texture which is suitable to the Pores of each Gland; and there is no need of a particular Ferment in each Gland, for their Secretion.

Animal

Animal Humors are circulated, and have also an Internal motion from the activity of their Particles; they have also an Effervescence betwixt contraries; but neither these Ebullitions, nor the external Motion are properly Fermentations, for that requires a slimy fetid Ferment in Animals: And all Fermentation tends to a very great change of a Liquor, which has once been fermented, as we observe in Wine, which becomes *Vinegar*, by a new ferment: And in *Animal Humors*, a Fermentation in the *Blood* excites a *Fever*, or produces the *Scurvy*.

All *Animal Humors* given inwardly, retain something of their original Textures, till they arrive at the *Blood*, whereby they readily pass their original Glands; so *Urine* is a great Diuretick. Milk breeds *Chyle*, and the milky *Lympha's*. The *Gall* of Animals is a good Hepatick, and opens the Liver. The Decoction of the *Spleen*, is used for *Spleen-Obstructions*, and seems to be useful where the Juice is defective.

The *Menses* are given by some absurd Practisers; they produce the *Menses*, but also a great Anxiety at the *Stomach*, and a Phrensie; as is observed by *Vanderwiel*.

The *Lungs* afford a milky Slime, in distillation for Hecticks; wherein that is continually evacuated.

The Fetid Parts of Animals, as the *Horns*, *Hoofs*, Volatile Chymical Oyls and *Salts*, readily pass into the *Nerves*, where those high Fetids are bred.

The *Liver* tastes like *Choler*, and helps its separation by that Taste.

The *Heart* has much of the Animal Fetid in it; and therefore the decoction of it is used for a Cordial.

The *Stones* are fit nourishment to supply the *Semen*.

The *Grits* of Animals are used for the *Stone*, as *Crabs-Eyes*.

Jellies are used to supply the *Succus Nutritius*.

I cannot observe any necessity of using more Principles in this Discourse of Animals, than those four I have mentioned.

In Vegetables I call them a *Water*, an *Oyl*, an *Acid*, and an *Earth*. In Minerals they may be called an *Earthy*, a *Bituminous Oyl*, an *Acid*, and a *Watry Principle*. But in the explication of Animal Humors, I will not use the Names of the Principles of either Vegetables or Minerals; but I have described them by a viscid or caseous part, an *Acid* or *Sowre*, an *Oyl* or *Fat Principle*, and a *Water* or *Lympha*. These Principles are the same in all the Parts and Humors of Animals, but in different Proportions and Digestions.

I. *Oyl* is capable of these different States in Animal Humors.

1. In Slimes it is crudest, as in the Vegetable Mucilages.
2. It is like Butter in *Chyle*, which is Sweet.
3. It

3. It is Oily in Fat, and Red upon longer digestion in the Blood, and yellow in *Choler*, and Bitter.
4. It is Fetid in the Spirits.

II. The Acid of Animal Humors has these different States naturally.

1. In milky *Chyle* it is Sowre, like *Tartar*, as is evident in *Butter-Milk*; and the sowreness is somewhat perceptible in the milky *Lympha's*.

2. The Volatile Acid in the *Stomach*, is a Volatile *Tartar*, like the Spirit of *Vinegar*: This is the effect of Fermentation in all Acid Vegetables, and is a combination of Oyl and Acid.

3. The Vitriolick Acid in the *Blood*, which is a Sulphureous Acid.

4. The Acid in the *Ammoniac Salt* of Animals, like the Spirit of *Salt*.

The Acid in the salt Taste of *Chyle*, is from the sowre *Tartar* of *Chyle*; but the Acid adhering to the Volatile *Salt* produced in the *Blood*, by putrefaction, must needs be from the Vitriolick Acid of the *Blood*.

III. The Viscid Principle has these Successive Changes naturally.

1. It is a Slime in the Meat; but a caseous Viscid in the *Chyle*.

2. It is like *Glew* in the *Serum*, when inspissate by the Fire.

3. It

3. It is like Jelly in the salt *Lympha's*.
4. It is Fibrous in the Mass of Blood.
5. It is Bony, or Calculous, or Sandy, upon its last resolution, by a long circulation or digestion.

IV. The Water is only altered into a thinner Consistence, and much rarefied to pass the several Glands, and to dilute the several Humors.

Many other Tastes might be added to these; but they are the effects of a preternatural state of Humors.

1. An *Albuminous* Styptick Taste in the Spittle of the Convulsive.

2. A corrosive Acidity in *Colicks*, *Heart-Burnings*, and *Ulcers*: This is Oleose-acid, like Acid-acrid in *Rosa Solis*, and *Bellis minor*.

3. The corrosive Saltness, such as is that of *Lime-Salt*, being burning and Salso-acid.

4. A viscid Taste is produced by the Inspissation of the milky Slimes; such is the vitreous *Pituita* in the *Lungs*, and the white Skin, or Pleuritick Blood.

5. A nauseous Taste in the *Saliva*, by *Choler*; and by that Mixture, a bitter, sweet, and slimy Taste is produced, which is nauseous.

6. A Fetid nauseous Taste, from some putredinous Fetid, communicated from a stagnating Humor, or the nidorose Contents of the *Stomach*, like rotten Eggs, or the Womb in a dead Child, or the putrid Guins in the *Scurvy*.

But these Observations belong to the preternatural state of Animal Humors.

A

A Scheme of Animal Smells, naturally observable in Animal Humors, or the solid Parts.

1. The smell of Milk in the Flesh of young Creatures, and in Milk it self.

2. The stronger Spirits any Animal has, the stronger is the Smell of that Animal; so that by the Animal Smell we discern the height of the digestion in each Animal; for the Spirits give the particular Smell to each Animal, and the Spirits are the high digested Oyly parts.

3. There is a Nitro-Sulphureous *Fætor* in the *Guts*: I cannot observe any Nitrous Taste or Smell in any other parts of an Animal, but in the *primæ viæ*, where it is evident, after over-digestion, by this Smell.

4. A putrid Smell of *Cheese* may be observed in *Sweat*, and in the Pissle of a *Sea-Horse* scraped, and in *Horns*.

5. A Lixivial piercing Smell is in the *Urine*.

6. A smell of *Marigolds* is in the *Menses*.

7. A virose ranck Smell is in the *Semen*, like putrid Fish.

8. A high degree of Fetid is in the *Hoofs*, and in the old *Bones* and *Nails*.

9. A Fetid Oyly offensive Savor is in melted *Fat* or *Grease*.

10. An Acid piercing Smell mixt with Fetid in the *Stomachs* of Animals, after the digestion of their Meat.

Pre-

Preternatural Smells.

1. A Sowreness in the Stomachs of Children, when they vomit Milk, and in their Stools.

2. A Nidorose Sulphureous Smell in the over-digestion of some Meats.

3. A putredinous Smell in some *Fevers*, and in the *Small-Pox*.

4. A higher degree of the putrid Smell in *Gangrenes* and foul *Ulcers*, like Carrion, and in the *Scurvy*.

5. An Earthy Smell in dying Bodies.

Of the similitude betwixt Plants and Animals.

The great similitude betwixt the natures of Plants and Animals; and the transmigration of Principles, from Plants to Animals, might be the cause why *Democritus* and *Plato* attributed Sense to Plants: And *Anaxagoras* esteemed them sensible of Pleasure and Pain.

The similitude of their Principles is evident, and the number is the same.

1. Water distilled from *Milk* and *Blood*, if considered without the smatch of the Oyl, is very little or nothing different from the water of Vegetables, as to their Physical use.

2. The sowreness of *Buttermilk* exactly resembles that of *Tartar*. The Sulphureous Acid of Minerals, with the Earth of Plants, turns to a pure
Tartar;

Tartar; but with the Oyl and Earth of Animals, it produces a Vitriolick Acid; as from the Acid of *Sulphur* we produce a *Vitriol* from *Steel*.

3. The Oyl of Animals is the matter of Heat, and ferments with an Acid like that of Vegetables; and it, like Refins, yields all the varieties of Animal Smells, when it is associated with the Volatile Salt; and there is as great a variety of Animal Tastes and Smells, as there is in Vegetables. I have Instanced in the similitude of the tastes of Animal Humors, and their Vegetable Medicines. The pungent Acrimony in *Choler*, and the *Cress*-Tastes in Plants is very much alike; and some Marine Plants, as *Sponges*, yield a Volatile Urinous Salt by distillation; and also a fixt one, like that of Plants.

The sweet Tastes in Plants contain much Oyl, and feed much, by supplying *Chyle*; the Vegetable Oyl turning into an Animal Fat. I have compared the *Fat*, *Marrow* and *Suets* of Animals, to the Vegetable Balsams, Oyls, Refins, and Turpentine: And we usually find Oyls of Vegetables, and the *Axungias* to mix well together, as being of a like nature.

Though the Ingenious Writers upon Insects have given us many Instances of their production from Eggs, which former Ages esteemed to proceed from Putrefaction (for they demonstrate how Insects insert their Eggs into Stalks, Roots, Fruits, and the Leaves of Plants, and also into putrid Substances of Animals, and into the Bodies of other Insects,) yet

yet there remain so many particulars which they have not solved, that I cannot but approve the ancient Opinion, which affirms, That Insects are produced both from Plants and putrefied Animals.

There is necessary for the ordinary production of Creatures,

1. A fit nourishment prepared for the *Embryo*.
2. The first rudiments of it produced from the Vessels of Parents.

Vegetable Juices, by putrefaction, may be changed into the nature of Animal Humors; and when they are digested in the Stomach, they change their Vegetable nature; and if we artificially putrefie Vegetables, they will yield a Volatile Salt, which is of an Animal nature.

In putrid Vegetables, Insects are always observed: The contrary opinion allows, That putrid Bodies are fit nourishment for the young Insect: And I may probably affirm therefore, it is fit for its original constitution at first, as Eggs serve other Animals for Food, as well as the production of the *Fœtus*: And if the Juices of Vegetables turn into the nature of Animal Humors, it is also probable, that these may also cause the Vessels of Vegetables to shoot, and branch themselves into some Animal Vessels, necessary for the constitution of the *Embryo's* solid parts. It seems not improbable, that the Vessels of Plants should become fit Vessels for Animals;
for

for the Plant-Anatomists have described those Vessels of Plants to be as curiously wrought as any in Animals: And we observe the Vessels of Plants and Animals shoot into Mould upon Putrefaction, which therefore alters both Vessels, and the Juices in Plants: And if Mould (which is described like a Plant) can grow out of Animals, we cannot believe it unreasonable to assert, That Animals should grow out of Plants, from whence they are constantly nourished. *Malpighius* gives an Instance of Plants growing out of the dried *Serum* taken out of Hydro-pical Tumors; *Minimæ Plantulæ quasi pulmonariæ vel coralloides eleganter attolluntur. De struct. gland. conglobat. pag. 15.*

We find that a Plant of a different nature may grow out of another Plant, without a Seed, as is evident in *Mistletoe*, *Mosses*, *Mushrooms*, *Hypocystis*, *Orobanche*; why may not an Insect of another Species grow out of the living and dead Bodies of the *Erucas*, without the insertion of an Egg?

The Worms in Animals are very different from all the other Insects in the World. It is impossible that Insects should insert their Eggs into the Horns, Guts, Liver, and Bones of Animals, in which Insects have been observed. I have taken the broad Worm out of the Guts of the *Embryo*, upon the dissection of a *Cow* with *Calf*; I am sure it is highly improbable that any Insects Egg should be conveyed thither.

The

The Ingenious Dr. *Tyson* has observed a difference betwixt the long Worm in Animals, and the ordinary Earth-worm; and therefore they are not of the same nature.

Insects are not only superficially changed, but many also of their Internal parts are changed also; they alter their Diet, for the *Eruca* and *Papilio* have different Food and Actions. These changes from one Species of Insects to another, shew the change from the Fibrous parts of a Plant to the first Lineaments of an Insect, not to be improbable.

The Tastes and Smells of some Insects.

1. Insects of a slimy Taste, as *Snails*; the Slime of *Snails*, supplies the Milky Slime, being like the *Saliva*. The threads of *Spiders* and *Silkworms* is bred of a slimy viscid Humor, which is used to stop Bleeding, as viscid Gums be.

Frogs have a cool Slime for Oyntments; and their slimy Spawn yields a cool Water, which may be given to cool the glandulous Juice of the Womb.

I have taken an hundred of *Grass-snails* in a Morning, and swallowed them whole in *May*, after they are mixed in a Napkin. Other *Snails* are better boyled in *Milk* for *Hedticks*; for distillation destroys their Slime.

2. An Acid Odor is observed in *Ants*; and an Acid Spirit is distilled from them.

3. An

3. An Acrid Taste may be observed by chewing live *Millepedes*, with a flavor of the rotten Wood on which they feed. This Acrid passes by *Urine*, and makes them Diuretick, and also Hepatick and Cephalick. The dried *Millepedes* are Fetid, and thereby discuss *Scrophulous Tumors*.

4. There is a bitter Astringency in the *Kermes*, which is the Nest or Gall of the Insect. The Insect is supposed to be Fragrant and Acrid; from whence its Cordial Vertue may depend: And its Antifebrile Vertue from the taste of *Galls*, which resemble the taste of the *Cortex Peruvianus*; and therefore the *Cortex* of the *Ilex coccifera* ought to be tryed for the *Jesuits-Bark*; it grows in *Italy*, *Spain*, and *France*, and is described, as having green Leaves, like the *Laurel-Bitters*.

Coccus Polonicus grows on the Roots of *Polygonum*: It contains a *Worm* which turns into a *Fly*, and that leaves a Skin which smells of *Musk*: It is used for *Convulsions*. Bonetus.

The Syrup of *Kermes* has a Fragrancy from the Juice of *Apples*, and *Rose-water*.

5. The *Cimices* smell Fetid: The Insects bred in the Body of the *Willow* are said *hircum olere*.

6. A corrosive Taste is in *Cantharides*: Their Acrid Salt affects the Kidnies and Bladder; and they offend the Nose by pounding, as Acrids do:

Cc

And

And if they be ground to Powder, they turn Syrup of *Violets* green.

7. Of a Salt Taste: This is observed in the Venomous sting of a *Bee*: And the Venome of a *Scorpion* is, *Guttula aquæ candidæ*, as *Redi* informs us. The same corrosive Acrid, or salt Ferment is in all Venoms. A burning Coal applyed to the Bite or Sting immediately, prevents all Mischief. And Volatile Salts most successfully prevent the coagulations of the Blood by poysonous Bites.

A T A-

A TABLE of Mineral Tastes.

I. Gritty Tastes of *Earth, Stones, Minerals,* and their hot *Calces*.

II. Styptick fat greasie *Earths*.

III. Vitriolick Tastes.

1. Acerb Aluminous, of *Alum* and *Quick-silver*.

2. Sweet Vitriolick in *Steel, Gold, Tin,* and *Lead Vitriols*.

3. Bitter Vitriolick in *Silver-Crystals*.

4. Nauseous Brass-flavored *Vitriols* in *Copper*.

IV. Bituminous bitterish Tastes, either Fetid, Aromatick, or Terebinthinate.

V. Fetid sulphureous Tastes.

VI. Acid Tastes of Spirit of *Sulphur, Vitriol, Salt, Nitre*.

VII. Salt Tastes, Volatile or Fixed, or Vitriolated or Ammoniack.

VIII. Marine Salso-acids, as *Sal Gemmae*, or else Nitrose cool *Salts*.

IX. Caustick burning Tastes, and Styptick.

The First CLASS.

The Tastes and Smells of Earths.

WE call those *Mineral Earths*, which dissolve or soften by Water, and taste and smell Earthy.

I. *Earths* of a sandy or gritty Taste, such as common *Earth*, and of a smell of Mould. This common *Earth* is produced from the minute Particles of Stones, worn off by Rain, the current of Springs, Rivers, and the Sea, where Sandiness most abounds; or else by the Airs motion, or the sulphureous Acid in it, arising from the hot central parts of the *Earth*: With this the common *Earth* seems to be Impregnate, and not to be the pure Element of *Earth*, which I suppose to be like *Glass* or *Asbes*, since most Bodies are reducible by Fire into one of them. And that solid part in *Minerals* which is Alkalizate, and ferments with Acids, seems to me the true Element of *Earth*; and this also yields the Alkalizate parts both to Plants and Animals.

I distilled in an Earthen Retort, and an open Fire, some common dry *Earth*, and sifted it clean from Vegetables: It was taken half a Foot or more deep under the green Turf: It yielded a great deal of
Water,

Water, and I observed a burnt Smell of Smoak: I mixed Syrup of *Violets* with the Water, and it turned it green. From this Experiment I suppose I may conclude, That the common *Earth* contains Water and some Oyl, and Volatile Salt is made out of it. By the Fire, the *Caput mortuum* turned white, like burnt Ashes.

All gritty *Earths* ferment with Acids, as *Chalk*.

2. *Earths* of a Styptick Taste, sticking to the Tongue, and feeling Unctuous, with a sulphureous Earthy Smell. These are Metallick *Earths*, taken from Mines; and their Vitriolick Stypticity is from the Metal.

Bole has its Stypticity and colour from *Iron*, because it yields a green Tincture with Spirit of *Salt*; and is Aluminous, by mixing with Spirit of *Nitre*.

Terra figillata contains some Particles of *Gold*, and ferments with Acids; but *Bole* does not, it becomes Aluminous by Acids.

Raddle distilled, smelt a little Acid; but the Phlegm which was in great quantity, tasted like pure Water: The *Raddle* lost not its colour, but turned deep Purple in the *Caput Mortuum*.

Raddle is given to ʒii. for two or three Doses in the beginning of the *Small-Pox*, to stop and prevent Looseness, and too great Putrefaction. It tastes like *Bole*, and has the same Virtue as an Antidote against Infectious Fevers.

3. *Earths* of a bituminous fetid Taste, which give a bitterness to some purging Springs, as *North-hall-Waters*.

The Fires made of Boggy *Earths* smell Sulphureous and Fetid, as in our *Pea-Turfs*. Hence it appears that *Sulphurs* are lodged in *Earths*, as well as other *Minerals*.

Bituminous *Earths* are of a discharging nature, because Fetid.

4. Aromatick *Earth*, *Samos Earth* mentioned by Dr. Grew.

5. Acrid *Earths*, and sweet *Earths*, and bitter sweet, are mentioned by Kircher.

6. Salt *Earths* may also be observed as well as Salt Springs; for all Physical Waters have their Tastes from *Mineral Earths*.

I observed a white Salt on new Brick-Walls, which tasted cool and saltish, like *Nitre*: This seems to come from the Burnt-Brick, whose Volatile Salt is made *Nitrous*, by the Acid of the Air.

I distilled *Marle*, and *Clay*, but had nothing but Phlegm, but they turned Syrup of *Violets* green, which is a sign of a Volatile Salt. And *Bartholin* mentions an *argilla flava*, which yields a Volatile Salt in Glass Vessels, but it is lost in Earthen; which caution I did not observe. And *Le Mort* affirms, That *Argillæ variæ species præbent sal volatile mediante distillatione*. The Phlegm of the *Marle* looked Oyly, and smelt very strong of a particular Smell, not unpleasant. From hence I suppose some Oyliness is latent in *Marle*, as well as because it improves Sandy ground.

By these Experiments I found how difficult it was
to

to resolve the common *Earths* into their Principles by the Fire; but nature easily dissolves all her own mixtures, by a gradual Fermentation, by the Sulphureous Acid in the Air: And the constant agitation of the *Materia subtilis*, which flowing from the Sun gives motion to Fluids, and vegetation to Plants. Tho' Plants spread their Roots in common *Earth*, yet thence neither their Oyl, Acid, or Earth is drawn, but only from the Rain-water, impregnate with the Sulphureous Acid of the Air; and also saturated with the Bituminous Fumes, lodged in the common *Earth*. The bituminous Oyl, and sulphureous Acid unite in the Water, and are capable of the Vegetable Ferment, which changes the Mineral Principles into a Vegetable State, and the particular nature of each Plant. The stronger the Oyl of the Plant, the higher is the Fermentation of this bituminous Nutriment of Plants, and the weaker Fermentation depends upon a crude Oyl: When the Nutriment of Plants, which is a Mineral Juice is become of a Vegetable nature, it receives no new Fermentation in any part of the Plant, but in the Bladders of the Root; all the alteration which happens afterward, is only from its digestion by the heat of the Sun, the agitation of the Plant by the Wind, and the long conservation of its Juices in large Vessels, as in the Bladders of Fruits, and the Leaves of Trees.

Of the Taste and Smell of Stones.

STones may be observed in *Animals, Vegetables, and Minerals.*

I. *Animal Stones* of a chalky Substance, and of a dry gritt in Taste, and earthy Smell: These ferment with Acids, like *Chalk*, and thereby become Styptick; but with Spirit of *Salt* they acquire a saltish Taste, and are Diuretick. And by their unequal rough Particles they cleanse the *Teeth* in Dentifrices, and probably rub off the Gravel in the *Kidnies*.

Crabs-Eyes is a chalky *Animal Earth*, and smells like *Chalk*, when powdered. *Egg-shells* and *Oyster-shells* have the same chalky Substance. *Egg-shells* burnt taste Saltish, and burning like *Lime*; and *Oyster-shells* burnt have a Saltneis.

Bezoar-Stone tastes Gritty, and ferments strongly with Acids. Since petrified Animal Substances are dissolvable by Acids, as Spirit of *Nitre*; by this they resemble the *Gypsum* or *Lime-stone*. Petrified *Animals* also burn into a *Caput mortuum*, like *Lime*, and have a little ebullition like *Lime*, upon the effusion of Water. I may hence conjecture, That the Stony Particles which petrifie *Animals*, is from the *Lime-stone*; which joyning with the natural *Virriolick Acid* of *Animal Blood*, produces the petrifying

fying Principle, which is like *Nitrum calcarium* in petrifying Waters : Petrified *Lime-stone Icicles* hang naturally on *Lime-stone Rocks*.

Petrified *Animal Parts* distilled, as *Pearls, Bones, Crabs-Eyes*, and human *Stones*, yield Volatile Salts and Oyls, and have a *Lime* for their *Caput Mortuum* ; which being intermixt with their *Animal Principles*, petrified them.

The *Calculus humanus* contains little fixt Salt, but much Volatile ; and therefore it is not bred out of *Tartar*, but the *Lime-stone* Particles associated with the *Ammoniac Animal Salt*, coagulates into a *Stone*, which is much lighter than *Minerals*, but heavier than *Animal Bones*.

II. *Vegetable Stones* petrified, as the *Stones in Fruits*, of *Dates, Haws, Peaches, &c.* These *Stones* distilled, yield an Acid Spirit, like the Spirit of *Wood* : This Acid combining with the *Lime-stone Earth*, constitutes the petrifying Principles in *Vegetables*. The *Stones of Pears* ferment with Acids ; therefore these *Vegetable Stones* may imbibe the *Animal Acids*, and become Diuretick. So the Seed-cases of *Gromwel* ferment by Acids.

Malpighius has observed some *Turpentine-Vessels* in the *Stones of Peaches*, whence their Diuretick Vertue may be increased.

Petrified *Vegetables*, as *Coral*, ferments with Acid ; and the Powder of it smells Earthy, like *Moss*. If it have any Fragrancy, it may resemble that of
some

some *Mosses*, or is ground by the Apothecary, with fragrant Waters. *Coral* distilled yields a smoaky Acid Spirit, like that of *Wood*, and an Empyreumatick Oyl, which are its *Vegetable* Principles; and the *Caput mortuum* is like *Lime*, which equalled the quantity of the Acid Spirit; but it did not effervesce with Water, as *Lime*.

From the distillation of petrified *Animals* and *Vegetables* it appears, That their Principles are not changed by petrification, but only *Nitre* mixt with a *Lime-stone*, or chalky *Stone*, by which they acquire a greater hardness and solidity. And it is observed in *Bonetus*, That *Coral* may be dissolved in *rubicundissimam mucilaginem*, by reason of its *Vegetable* Principles, which I believe remain unaltered by petrification.

III. Mineral Stones :

These are either of the nature of *Lime-stones* or *Flints*, or Metalline *Stones*, or Bituminous.

I call all those *Lime-stones* which burn into a kind of *Lime*; and these may be divided into *Stones* of a chalky Substance, or those of a harder Substance, as common *Stone*, &c.

I. *Stones* of a chalky Substance, as *Lapis Spongiæ*, which smells like *Chalk*, and dissolves with Spirit of *Salt*: This grows in *Sponges*.

Osteocolla: It looks like the inward part of a Bone; Spongy and Porous; and therefore the Powder of this was given to supply the petrifying
Earthy

Earthy part, necessary for the solidity of *Bones*, which are not far from the nature of *Minerals*. *Knitbone* grows like a Plant, and branches it self in the Earth, and has a chalky Pith: It is esteemed a petrified *Marle*. Dr. *Grew* observes, That a fat putrid Substance, like rotten *Wood*, is found with it, which he thinks, the Mother of it.

Lapis Judaicus is Flinty, but by rubbing it looks like *Chalk*: It ferments with Spirit of *Nitre*, and is of the nature of *Chalk*, being used as a Diuretick.

2. Stones of a greater hardness, as *Lime-stone*, *Marble*, *Alabaster*; all which burnt yield a *Lime*. I have seen a *Lime-stone* finely polished, which, in its coloured Veins, resembled *Marble*, and is plentifully found in *Hereford-shire*, and there *Lime* is made of it. I burnt a piece of building-*Stone* into *Lime*, which is used in many places both for *Stone* and *Lime*.

Gypsum ustum is Styptick, and dries *Ulcers* in the Mouth; and is used for fore *Horse* backs.

Calx viva has a Styptick, burning, and corrosive Taste: From the common *Lime-stone* a Sulphureous Acid may be distilled. The *Lime-stone* is burnt half away in the Fire; and an Oyl is observed to sweat out of it in burning. This Sulphureous Oily Acid unites with the Earth into a *Salt*, and gives the Stypticity to burnt *Lime*. These Experiments shew the natural composition of Stones, that they have both Oyl and Acid in their Bodies.

Spirit

Spirit of *Vitriol* makes *Lime-water* Bitterish, by separating the Oyl from the Earthy part, with which it unites: From this mixture, evaporated by addition of Salt of *Tartar*, a Volatile Salt may be distilled, which smells Urinous. This Experiment shews the Volatility of the Salt of *Lime*; and hence it has its Urinous Smell; and some of it passes over in the distillation of *Sal Ammoniac*, which makes it somewhat Corrosive. This Volatile Earth of *Lime* seems to be the terrene part, necessary in the composition of Salt, by the addition of an Oily Acid: And this may be the Alkalizate part in all Plants. The Ashes of Plants and *Calx* of *Lime* agree in their Saltness; and both are used for the Improvement of Land.

2. The Second Species of *Stones* is of those glassy Stones which have the hardness and nature of *Flints*: These being ground to Powder have angular edges like broken Glass, whereby they cleanse and scowre the Kidnies from Sandy coagulations.

Sand is of the nature of *Flints*, and seems to be the product of *Sea-Salt*, being plentifully produced in the making of Salt. And *Le Mort* observes, that *Arenæ masticatæ falsum, blandum gustum linguae communicant*. And *Sand* is also produced from the *Animal Salts* coagulated in the Kidnies. Black *Sand* is from *Iron*, yellow from *Ocher*, green from *Copper*, golden from *Gold* intermixt with it in its coagulation. The *Nitrum calcarium* is the chief part
of

of *Flints*, which coagulates either with the *Limestone* Particles in common *Sand*, or else with some *Mineral* in coloured *Flints*.

The gritty Stones used for Building is nothing but a congeries of *Sand*. This grows soft in the Fire, but will not burn into *Lime*; the *Clay* which unites the *Sand* is dried by the Fire.

No flinty Stones will burn into *Lime*.

Lapis Nephriticus is flinty, and ragged like the Stones of the *Kidnies*; it looks Oily without, and is of a pale green colour: It is a kind of *Jaspis*, having its Tincture from *Iron*; and all its Vertue is to be deduced thence.

Common *Flints*, and common *Pebbles*, which are *Flints*, smell Sulphureous if knocked together, and strike Fire, by a brisk agitation of the Sulphureous Particles. When they are burnt in the Fire, and quenched in Water, they crack, and give a Sulphureous Taste to it. The Water will not ferment by an Acid, neither would it turn with *Galls*, though the Water tasted very much of *Steel*. *Flints* and *Pebbles* have divers Metals mixed with them, as *Iron*, *Gold*, *Silver*, *Copper*, &c. and sometimes divers *Earths*, or *Boles*, which colour the Stones.

Gems seem not to differ from *Flints*, in which *Diamonds* are bred.

Crystal is the softest: It is used in Powder to abate the Acid in *Colicks*, and the poyson of *Sublimate*, which is a corrosive *Vitriol*.

I cannot believe that *Gems* can be dissolved in
the

the *Stomach*, because *Pebbles* pass through the Guts of *Hens* undissolved; and also Fruit-stones, which are less hard.

The coloured *Gems* are coloured *Flints*.

Rubines Granates, Hyacinth, have their Tincture from *Gold*, and likewise their Vertue, *Aq. Regis* extracts the Tincture from *Granates*, like that of *Gold*; to which a Cordial Vertue is attributed, because it is made like a *Vitriol*, by dissolution, by a *Menstruum*, and that raises the Fermentation of the Blood; but it is impossible that the Liquors in the *Stomach* should dissolve *Gold*; and therefore they cannot extract a Tincture from these Stones.

The *Smaragdus* and *Jaspis* have their green colour from *Iron*, and that Astringency and Chalybeate Faculty which is attributed to them in *Bleeding* and *Fluxes*; but a little powder of *Steel* is more efficacious; for though *Iron* is dissolvable by Acids, yet *Iron Ore*, such as is in the Stones, cannot yield to them.

Saphires have their Sky-colour from *Copper*, and are used as *Vitriol* in Eye-Medicines.

Topazes have their Vertue, and *Saffron*-colour from *Iron*.

The *Salts* of precious *Stones* are only a composition of the Acid and the *Stone*.

Some precious *Stones* are said to smell fragrant when ground, but I could not observe the Fragrancy in some which had been long powdered. I will mention what I find in the Illustrious *Kircher*, *Geodes Misenus*

Misenus violæ odorem refert : It has the Vertue of *Ætites*, and is a Stone of the same nature.

Lapis Marieburgicus moschum olet, serpilli odorem Turingicus, musti odorem opihites, vinum olet echites, lac galactites, sulphuris odorem marchasitæ, & filices, succinum, & gagates resinæ odorem.

Kircher
Mundus
subter. de
lapidibus.

The Sulphur in some precious Stones, is like a Flame, and shines in the dark, by rubbing, or warm Water, as some *Diamonds*. These are the natural *Mineral Noctiluca's*, which, like those made of *Animal Humors*, are shining and Sulphureous. This Sulphur gives the *Violet* Fragrancy in some Stones; and thence some effects may be produced on *Animal Spirits*.

3. Stones of a Metalline hardness, and something Vitriolick, from the Metals they contain. All Metals are fixed in some Stony Mineral, as *Spar*, *Limestone*, or such like.

I distilled some *Iron-stone* in an Earthen Retort, it yielded a Phlegm, which smelt Sulphureous, and tasted Vitriolick Sweet, and turned Syrup of *Violets* green. This *Iron-stone* burnt in the Furnace was a pure *Flint*. This I had from my Worthy Friend Mr. *Humphry Jennings's* Furnace in *Warwick-shire*, near *Aston*.

Lapis hæmatites : I distilled a red Liquor from *Lapis hæmatites* and *Sal Ammoniac*, of an Aluminous Taste, fit for *Fluxes*, and of a *Saffron* Smell; and therefore called *Arema Philosoph.* by *Zwelfer*.
The

The Tincture made of *Vitriolum Martis*, and *Saccharum Saturni*, looks of the same colour, and is an extraordinary Styptick in *Fluxes*; and is called the *Tinct. Antiphthifica*. An artificial *Blood-stone* is produced by the Sublimation of *Vitriol. Martis*, and *Saccharum Saturni*; for which reason, the *hæmatites* is supposed to partake of both Metals, and its Vertue lies in the Astringency.

The *Magnet* is used in Wounds, and all Martial Medicines; but neither this, nor the *hæmatites*, nor the *Ore of Iron* ferment with Acids.

Amber, and other Bitumens, attract by their Sulphureous Steams; for rubbing increases their Electrical Vertue, by exciting the motion of the Sulphureous *Effluvioms*. The *Load-stone* being *Iron* must attract by its *Sulphur Effluvia*, of which *Iron* smells strongly: And those circulate through the Stony matter, with some respect to the Poles, to which the *Materia subtilis* determines it.

The *Pyrites* tastes Vitriolick, and smells Sulphureous: It is the *Myssy Diascoridis*.

The *Copper-stones* are of a Sulphureous burning heat, and Vitriolick Taste.

Lapis Lazuli and *Armeni* are Vitriolick Purgers, and vomit sometimes: They are washed to abate their Acrimony: They are sensible of Acids; and Urinous Spirits extract a blue colour; by which it appears, That *Copper* may be dissolved in the *Stomach*; and thereby those *Stones* purge.

Smiris contains *Iron*; and its Tincture turns black with Galls. Mr. Boyle. Pumex

Pumex is a soft *Stone*, but out of it a *Copper Tincture* may be extracted, whereby it dries and cicatrises.

4. *Stones* of a Bituminous Smell, as *Gagates*, *Lithanthrax*.

The white *Belearnites* is mentioned to smell like *Amber*, but the *Ash* coloured, like *Cows-Horn*, as *Dr. Grew* observed.

Lapis Lyncis tastes Fetid, and smells Sulphureous; and therefore is not fit for inward use, as a Diuretick: It is described of an Electrical Vertue.

There are some *Stones* indissolvable by Acids, neither melt by the Fire; and therefore they consist of an Earthy Principle alone, without the mixture of Oyl or Acids, as *Talc*, and *Selenites*, or *Spectular Stone*, both are used only as Cosmetics.

Burnt *Minerals* and *Stones* retain the Particles of Fire, whereby their weight is increased, and they acquire a heating and drying Faculty.

Magisteries of *Stones* ferment neither with Alkaline or Acid, and therefore are little esteemed.

Stones dissolved by Acids are Styptick, and *Coral* Austere.

The Tincture of *Coral* is binding, and rough in Taste; and no other Vertue can be expected from a petrified Substance in Tincture, though the Chymists unjustly boast of it, and have writ so much about its Tincture.

Lead-spar burnt, yields a Lixivial Salt, as *Dr. Grew* affirms: The Powder of it unburnt, is good

D d

for

for the *Stone* and *Gravel*; as I have observed, all gritty Powders pass by *Urine*, as *Crabs-Eyes*, &c. These are the chief parts of *Salt*, to which an Oily Acid joyns it self for compounding a *Salt*.

*Of the Tastes and Smells of Metals,
and Metallick Bodies, and their
products, as Vitriols, Calces,
Sulphurs, and Bitumens.*

ALL Metals taste something Vitriolick, by reason of their Sulphureous Acid. In their Composition there is little *Water*, much *Earth*, and *Sulphur*, which last is compounded of an Oyl and Acid.

All Metals have the same Principles, but in different proportions and mixtures of them: And we may evidently smell the *Sulphur* in all Metals, except in *Gold*, which does not smell Sulphureous. Metals have little Taste or Vertue of themselves, but by their Preparation.

First, Of Vitriols.

1. Of the Taste and Vertue of *Gold* Medicines.
Le Mort in his *Pharmacica Rationalis*, gives the
taste

taste of the Tincture of *Gold*, and says, It is a little Styptick, and afterward very Sweet; the sweetness following the Vitriolick Taste.

This Vitriolick sweet Taste agrees exactly with the *Steel-Taste* of Blood; and therefore may be a great Medicine for the strengthening of the Blood, as all *Steel Medicines* be, which have also a sweet Vitriolick Taste.

Mr. Molt, an Ingenious Chymist, informs me, That his Tincture of *Gold* tastes like *Spiritus nitri dulcis*; therefore this Preparation is different from the former.

The Volatile Alkali which extracts the Tincture, acquires the nature of an *Ammoniac Salt*, by mixing with some of the Acid *Menstruum*, adhering to the *Calx* of *Gold*; and that Salt may render the Tincture Diuretick and Sudorifick.

There is in the Blood an *Ammoniac Salt*, besides the Vitriolick Taste: And in all these the Tincture of *Gold*, and the Flowers of *Sal Ammoniac Martiale*, agree with the natural Taste of Blood; and therefore very much help its digestion, and the sanguification of *Chyle*.

The *Sulphur* of *Gold* cannot be extracted, but may produce some effects like *Sulphur*; so the *Sulphur* of *Flint* and *Iron* may appear burning, by striking both together, which excites a brisk motion: And *Iron* looks of different colours, by different degrees of Heat. The detonation of Metal, their smell of *Sulphur*, and also their burning are plainly effects

effects of their extraverted *Sulphur*, though that cannot be divided from the other Principles.

Aurum fulminans has a Vitriolick Taste, and purges if unwashed, and colours the Stools black: It yields a purple Sublimate, like the solution of *Gold*; this colour proceeds from its *Sulphur*, but that is not separable from the Earthy parts; for the Tincture of *Gold* may be reduced into *Gold* again. The fulminating Vertue depends on a new *Nitre*, regenerated by a mixture of the Salt of *Tartar* with the *Menstruum*; and this is lodged in the Pores of the *Gold*, and thence exploded.

2. *Silver Medicines*: The *Crystals* which are the *Vitriol* of *Silver*, are accounted very Bitter: In the *Pil. Lunares* they purge violently.

The blue Tincture of *Silver* tastes Bitterish; by which, and the Volatile Alkali of its *Menstruum*, it is Antiepileptick, and it tastes also Styptick; for which it is used in the *Gonorrhœa*.

3. *Copper Medicines* are Vitriolick, Bitterish, of a Brass-savour Taste, very Nauseous.

The *Roman Vitriol* is most Acrid. *Copper Ore*, and all *Copper Medicines* have a strong Sulphureous Smell; by which they discuss and deterge, and eat proud Flesh, as *Ærugo* does; but the Vitriolick Taste cicatrizes.

Galen mentions the Acrimony of *Copper Vitriol*, with a suffocating Smell.

Spirit of *Verdigriese* has a strong Acid pungent Taste,

Taste, by which it is a great dissolvent, and smells of a quick Acid.

Sal Vitrioli vomits, by its Brass-favored nauseous *Vitriol-Taste*.

White *Vitriol* will not coagulate the *Serum* of the Blood, neither will burnt *Vitriol*; I mixed both with it: but *Roman Vitriol* curdles it.

Æs uftum must be drying, and Astringent in Taste.

Sulphur Vitrioli narcaticum tastes Vitriolick. The *Sulphur* in all *Vitriols*, when it is precipitated from the Acid, smells Fetid, as in Oyl of *Vitriol*; and thereby it becomes Narcotick, or Anodyne.

Copper has a very strong *Sulphur*, whereby it becomes inflammable, and very prejudicial to the *Miners*.

A *Copper-Farthing* swallowed by a Child, caused a large Salivation.

The *Lunar Caustick* tastes of a Brass-favored burning *Vitriol*, as a Chirurgeon informs me. Burnt *Alum* and *Limé* have also a burning Stypticity, and are thereby also very Corrosive.

Common *Verdigriese* coagulates the *Serum* of the Blood, into which I put some of it; and therefore it acts the same on the *Succus nutritius*, which is bred from the *Serum*, and flows from *Ulcers*; and therefore by this Vitriolick coagulative Vertue it dries and cicatrizes, stopping the Vessels, and coagulating the *Serum*.

Burnt *Alum* coagulates the *Serum* very much; and therefore is very drying: It tastes extreamly Styptick, with some Heat and Acid.

4. *Iron Medicines*: They taste all Vitriolick Sweet; and *Iron* smells Sulphureous; the Vertue depends on the *Vitriol*, and also on the Fetid *Sulphur*.

Iron may be dissolved into a *Crocus*, by Spirit of *Hartshorn*; but it will not taste so Vitriolick as other Preparations. *Sal Chalybis* calcined, tastes Aluminous, and very Styptick; and then is most fit for outward use. *Sal Chalybis* will not coagulate the *Serum* of the Blood, nor *Choler*.

5. *Lead Medicines* are *Vitriol*, Sweet, and Styptick Aluminous.

The great Stypticity of *Lead* makes all its Preparations Offensive to the *Guts* and *Stomach*, where *Lead* leaves an indelible nauseousness, as *Wedelius* informs us. *Borellus* assures us, That the Salt of *Lead* produced the *Palsie*. *Bonetus* affirms, That the Fumes of *Lead* produce pains in the *Bowels*, stoppage in the *Belly*, and trembling of the *Limbs*, pains in the *Head*, and blackness of *Teeth*. I have often observed the dry *Cough*, and shortness of *Breath*, which he mentions, in the Miners. These affects are deducible from the Stypticity acting on different parts, and most particularly on the Nervous Juice. Since the Fumes of *Quicksilver* and *Lead* affect us after the same manner, I have supposed them to have some similitude in their natures.

For these Symptoms *Bonetus* commends Oily Medicines, which have a contrary effect to Stypticks, as *Sperma Ceti*, *Soap*. *Milk*, after Evacuation,
and

and fresh *Butter* used, prevent any ill effects of *Lead-Medicines*.

Tinctura Antiphthifica, which is made of *Saccharum Saturni*, and *Vitriolum Martis* tastes extremely Styptick, by which it heals the Ulceration of the *Lungs*, stops the putrefaction of the Blood, and prevents Loosnesses; but Stypticks make the Breath of Hectical Persons very short and strait, as I have oft observed by use of Stypticks, after Spitting of Blood.

Cerussa is Styptick and Cooling, being *Lead* corroded by *Vinegar*.

5. *Tin Medicines*: The *Vitriols* of *Tin* are described as Insipid and Rough. Mr. George Molt communicated these Tastes to me.

Sal Jovis is sweet on the Tongue at first, and goes off with a Rough unpleasantness at last.

The *Sulphur* of *Jovial Medicines* make them Anti-hystericks: And *Tin* smells very Sulphureous and burns. The Stypticity of *Jovial Medicines* outwardly heals all *Ulcers* and *Tetters*, if they be mixed with *Pomatum*.

6. *Mercurial Medicines*: *Mercurial Vitriols* are of a Brass-favored Taste, and Aluminous Styptick: Divers Persons have complained of that Taste after Purging with *Mercurius dulcis*; by this Aluminous *Vitriol* they cicatrize and resist putrefaction; and then coagulate the *Serum* of the Blood to produce a

Salivation: And *Alum* it self does coagulate it.

The Fumes of *Mercury* produce the *Palfie* and *Giddiness*, by coagulating the Nervous Juice. *Fumus Mercurii ob aciditatem hostilem laryngem statim præcludit, & constringit.* This is *Doleus's* Observation: So that *Mercury* unprepared has as evident qualities as other Metals.

That *Mercurial* Fumes pass through the *Nerves* into the *Brain* is not improbable; and also all other Smells act immediately upon the Spirits, and not on the Membranes or *Fibrillæ nervosæ*. This may be proved by the effects of *Charcoal* Fumes, which kill by their Fetid Oily Acids. And new *Aqua Fortis* will strike them down who smell to it, and cause a *Giddiness*. These *Mercurial* Fumes which get into the Blood, acquire some Vitriolick Acid thence, and thereby are more Vitriolated to coagulate the *Serum*, and produce a Salivation.

Turbith Mineral seems of little Taste at first, but leaves, after a few Minutes, an exceeding Roughness, with much Spitting; by which Tastes it salivates and vomits.

Mercurius dulcis, and *Præcipitatus albus dulcis* leave a Vitriolick Taste, a little Brass-flavored; but Sublimate has the strongest Styptick, curdling the *Serum* of the Blood.

Red *Precipitate* is a corrosive Styptick, but it would not curdle the *Serum* of the Blood, though I stirred it with it.

Mercurius vitæ after some time tastes Rough, and leaves

leaves a Brass-favored Vitriolick Taste. The Antimonial Sulphureous Acid makes it vomitive, especially being joyned with a Brass-favored Taste, which this, as well as all other Mercurial Purgers, leave, after their Operations. Salt of *Tartar* imbibes the Acid, and makes it milder. Spirits that are Acid correct the Antimonial *Sulphurs*, and take away its violence.

A scruple of Diaphoretick *Antimony* does well correct all Poysonous effects by *Quicksilver*, ill prepared; and so does Salt of *Tartar*, and *Lime-water*.

Mercury has some Acid in it, whereby it corrodes *Iron*, the *Teeth*, and offends *Worms*.

Spirit of *Sal Ammoniac* makes *Mercurius dulcis* black, by separating some *Sulphur* from the Acid *Salts*.

Mercury dissolved in *Aqua Fortis*, and precipitated by *Lime-Water*, is of a yellow colour: Salt Water precipitates it into a white: *Urine* to an Incarnate colour, as Oyl of *Tartar* to a Milky; but if Sublimate be precipitated, the colours vary, as at *Pag. 19*.
Second Part of the Pharmaco-Basanos.

7. Antimonial *Vitriols*, which consist most of *Sulphur*; but in *Antimony* some *Lead* is supposed to be, from whence it has its Alkali; which, combining with the Acid, is commonly added in the preparation of *Antimony*: It thence receives its Vitriolate Astringtion, which is perceived by the Taste; as my Ingenious Friend, Dr. *Edward Betts*, has intimated to me: And he also informed me, That *Crocus Metallorū* had some Taste like *Vitriolum album*. Common *Cinnabar* has the Cerufs of *Lead* mixed with it, and therefore is noxious. *Le Mōrt.*

Se-

Secondly, *The Taste of the Mineral Calces.*

These dry Earthy *Calces* imbibe Acids, and they are Diaphoretick, by retaining something of their *Mineral Sulphurs*; for diaphoretick *Antimony* becomes again Vomitive, if long kept; for the activity of the Aerial Acid dissolves the *Sulphur* out of it, as other Acid Spirits will do. This Instance is sufficient to shew that in *Mineral Calces* some *Sulphur* is contained, as well as some Oyliness in the Fixt Salt of Plants.

Antimonium Diaphoreticum, Antihecticum, Bezoardicum Solare, Lunare, Joviale, Minerale, are pure *Calces*, having some heat from the *Sulphur*, or the *Fire*, or the Spirit of *Wine* burnt on them.

Bezoardicum Minerale stirreth not with the Alkalies or Acids, and therefore acts chiefly by the latent *Sulphur*; and these *Calces* may be given in *Milk*.

The *Antihecticum* has the *Calces* of *Antimony, Steel*, and *Tin*, to absorb the Animal Acids; and some of each *Mineral Sulphur* adheres to their *Calx*, and therefore it Vomits, and is given till it becomes nauseous, by increasing the Dose. It corrects all Acids in *Lues Venerea*, in *Ulcers*, and the *Hectick*; but I must honestly confess, I could never observe any Cure to be done by it in Consumptive Cases, in which I have often tryed it. The Acid in the *Stomach* may give these *Calces* either a Saline Taste, or else a Stypticity, and so advance their Vertues, and help the separation of their *Sulphur*, which was before locked up with the Alkali, as appears in the Glass of *Antimony*, and other *Calces* which vomit.

Third-

Thirdly, *The Taste of Mineral Sulphurs.*

1. Sulphureous Acid, as in common *Sulphur*, which is evidently both Acid and Sulphureous upon burning it, and pierces the Nose strongly.

Ens primum Sulphuris smells strongly of *Sulphur*, and tastes much of the Acid, by which it cools *Hectical Blood*, and coagulates *Choler* in the *Colick*.

Sulphur is a good Preservative against all Infectious *Fevers*, and especially the *Small-Pox*, and all Epidemical Distempers depending on the Air, and as a Fetid it is *Antihysterick*. The Flowers taste both Fetid and something Vitriolick, and dry the *Piles*, in Pills or Lozenges.

2 Stronger *Sulphurs* and less Acid. In the *Clyffus* of *Antimony* the Acid is small, but the *Sulphur* is stronger than the smell of Sp. of *Sal Ammoniack*, which makes it an excellent *Antihysterick*, being strongly Fetid.

Emetick Tartar has a pleasing Acidity, but the *Sulphur* of the *Antimony* vomits.

Sal Antimonii has the taste of a dulcified Acid.

Ettmuller mentions a Salt *Clyffus* of *Antimony* as a good Diuretick: And he affirms, That Antimonial *Sulphur* may be prepared to smell like *Musk*. Dr. *Needham* says, *Antimonial Sulphur* smells and burns like *Brimstone*. *Cinnabar* of *Antimony* smells Sulphureous.

3. Sulphureous, hot, burning or Corrosive Acids. *Arsenick* tastes of a burning heat, and is also Acid. So the Butter of *Antimony*, which is Corrosive, smells strong of *Sulphur*, and has an Acid in it. *Oleum Stanni*

is

is very Corrosive, and Acid, and is not to be distinguished from *Butyrum Antimonii*; but, by its continual Smoaking, both being very Corrosive. This Corrosive quality in *Minerals* depends on a Volatile active burning *Sulphur*, edged with an Acid. *Arsenick* did not mix with the *Serum* of the *Blood*, nor curdle it: Neither would common *Sulphur* Flowers either mix or increase its Floridity. The *Mineral* of *Arsenick* causes shortness of *Breath*, and *Palfies* in the *Miners*, by its great *Fætor*: The *Spirits*, like the Flame of a Candle, are wholly extinguished by *Sulphureous Damps*.

Crocus Metallorum dissolves well in the *Serum* of the *Blood*; it gives it a yellow colour, but does not coagulate it, and therefore works more on the *Membranes* than *Humors*. The chief Vertue of *Antimony* lies in the *Sulphur*, which may be strongly smelt, by rubbing two pieces together; and by this *Sulphur Antimony* discusses, and dries in common drying Decoctions; but I must confess, *Sulphurs* are much more evident to the Smell than the Taste in all *Minerals*, and therefore by that Sense are most to be observed.

Fourthly, *The Tastes or Smells of the Bitumens.*

1. *Bitumens* taste Bitter, like *Turpentine*s, as *Petroleum*, and smell like it, with addition of some Earthy Fetid. *Asphaltum* tastes like *Pitch*, as I am informed, and it burns into a Cinder.

2. Some are Bitter and Fetid, as *Succinum*; the Tincture of *Amber* tastes Bitterish, and is Antiepileptick like other Fetids.

3. It

3. It is not improbable that *Amber-griese* is a *Bitumen*, and of a fragrant Smell, very Cordial. It yields the same Principles as *Amber* by distillation, both *Oyl* and *Salt*. If the consistence of the *Bitumens* be considered, they are like *Oyls*, *Turpentine*s, or *Resins*.

Ebenum fossile is said to be of a sweet scent & Cordial.

An Account of the Tar-Bitumen in Shropshire.

A *Bitumen* is called by the Famous *Kircher*, *Sulphur liquidum*, and *Sulphur Bitumen fixum*: This is plainly proved by some *Bitumens* which smell plainly of *Brimstone*, as the *Tar-Bitumen* or *Pici-Bitumen*, and have also a *Tar* Smell; for by both these Smells a *Sulphur*, and a *Turpentine Bitumen* are evidently known to be nearly related or compounded. I received this *Bitumen* from my Worthy and Ingenious Friend, Mr. G. *Plaxton* of *Sheriff-Hales* in *Shropshire*: And these following Observations were made at *Aston*, in *Warwick-shire*, in the Laboratory of my ever Honoured and Learned Friend, *Sir Charles Holt*, Baronet.

The smell of the *Bitumen* was like a mixture of *Tar* and *Brimstone*, which shews the middle state *Bitumens* have betwixt *Minerals* and *Vegetables*.

This *Bitumen* tastes Bitterish and Smoaky, & swims on a Spring, which rises about the middle of a Hill in a Wood, near to *Rowton*, in the Parish of *Brosely*, in *Shropshire*. We mixed this *Tar-like Bitumen* with *Sand*, and distilled it in a *Sand Furnace*, out of a Retort. At first a Phlegmatick Water came over, then a black *Oyl*, which we rectified with Water, and then it appeared like a yellow *Oyl*; in Colour, Smell, and Taste like

like Oyl of *Amber*, and therefore I believe it to be of the same nature.

By this Experiment it appears, That *Amber* is no Vegetable product, as a Gum-*Resin*, but truly a Mineral *Bitumen*, which is in some places dug out of the Earth, and that this *Tar* is a *Petroleum* or liquid *Amber*.

It seems probable to me, That this *Tar* is the Oyl of *Coal*, for such an Oily substance sweats from our *Pit-Coal*, in burning, and also comes from it by distillation; and also the *Sulphur*-smell in this *Tar* appears to be like *Coal* smoke. Many other *Bitumens* have a mixt smell of a Terebinthinate and Smoaky, or Sulphureous Smell.

The taste of *Petroleum* is Bitterish, and it smells of a mixt smell of *Turpentine*, and Fetid *Sulphur*, by which it discusses Tumors; and the Country People cure Ulcers and Swellings in their Cattle by this *Tar*. All *Bitumens* are discussing by their Fetid Smell, Conglutivative by their Gumminess, and Detergent by their Bitter Taste.

North-hall Water tastes Bitterish, and smells of a Sulphureous Smell, upon keeping; it seems therefore to have something Bituminous. The Sediment after Evaporation, tasted very burning and hot, and that Taste continued long on my Tongue: By this Acrimony it is Purgative and Diuretick. Spirit of *Harts-Horn* precipitated the Water white, like *Alum*-water; and it curdles *Milk* like that. As an alterative it has the Vertue of *Alum* in curing *Itch*, *Scab*, and all Fermentations, and fixes the Volatile Salts and Oyls, and

coagulates the *Lympha's*, and *Serum* of the Blood, which may sometimes occasion Rheumatick Pains, as I have observed it in some Persons.

Of the Tastes of Salts.

I. **S**alts properly so called, of a salt, hot, pungent Taste, and a Lixivial Smell, as all fixt *Salts*; these feel Unctuous to the Fingers, from some Oyl adhering to them; and these are strong Diureticks and Sudorificks.

II. Volatile Alkalies; these are of a burning pungent, salt Taste, with a smoaky urinous Smell; the smoakiness and burning is from the Oily Particles in *Salts*: By the addition of an Acid the Heat and Burning and Fetids are abated, for Acids correct all Oyls, and fix them.

III. An Acid sulphureous *Salt*, for so we improperly call all Figured Bodies, though they have no salt Taste; and Acids are the principal Ingredients of all other *Salts*: This sulphureous Acid is the aerial *Salt*, which mixes with all Fluids, and then fixes in the Earthy Particles, by which it is made evident to the Taste: It cannot be tasted in *Snow* or *Ice*, for want of an Alkali: All Acids we taste have a roughness; and therefore an Earthy part to make them act on our Taste is necessary. This aerial sulphureous Acid rises from the sulphureous Fumes of the Earth, or the sulphureous lucid matter of the Sun.

IV. Mixt *Salts* tasting *Salso-acid*.

i. Urinous *Salso-acids*, made of a Volatile and Acid,

cid, mixt as *Sal Ammoniack*, which most resembles the salt of the *Blood*, being Diuretick and Sudorifick.

2. Vitriolated *Salts*, consisting of a Fixt and an Acid.

3. Nitrous *Salts*, consisting of a sulphureous Acid, and a Volatile *Salt*, tasting Cool and Saltsish.

Arcanum duplicatum is esteemed as a mixt *Salt*; and *Ettmuller* says, It is Bitterish, it is Diuretick, a Digestive, and a Febrifuge.

Spirit of *Nitre* ferments with the Sand in the *Urine*, and is esteemed the best Lithonriptick by Dr. *Grew*.

V. *Salts* compounded from some Acid and Mineral.

1. Aluminous Tastes, tasting Acerb or Acid-rough.

Burnt-Alum tastes Sweetish, Sub-acid, Hot, and very Styptick, whereby it coagulated the *Serum* of the *Blood*, and stops its extravatation in *Ulcers*, but it did not change the florid of the *Blood*, as *Vinegar* does.

2. Vitriolick *Salts*, so called from their shooting into particular edged Figures, like *Salts*, and they have a Styptick Taste.

3. Marine *Salts*, as *Sea-Salt*, *Sal-Gem*, are *Salso-acid*.

and *Sal Amaticum* is of a *Salso-acid* Taste, and is used for Eye-Medicines to supply the saltness of the Tears to cleanse the viscid *Lympha* in the corrosive Acidity. We use *Tutty* and *Calaminary Stone* to absorb the Acid, for they ferment with them.

VI. Of a burning, corrosive, salt Taste, as in the *Lixivium* of Soap-ashes: It tastes burning, and smells of *Lime*. I put some of it into the *Serum* of *Blood*, and it turned it higher coloured, but did not coagulate it.

Alumen scissile uti castor urticarum, *Ettmuller*.

